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**Effects of Social Support, Coping Strategies, Self-esteem, Mastery, and
Religiosity on the Relationship between Stress and Depression among
Korean Immigrants in the United States: Structural Equation Modeling**

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Religiosity on the Relationship between Stress and Depression among
Korean Immigrants in the United States: Structural Equation Modeling**

by

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**Effects of Social Support, Coping Strategies, Self-esteem, Mastery, and
Religiosity on the Relationship between Stress and Depression among
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Literature has shown that Korean immigrants experience severe depressive symptoms due to the stresses associated with immigration. The purpose of this study is to extend current research on stress and depression to the Korean immigrant population in the United States. While most studies on Korean immigrants focus almost entirely on the unsettling nature of immigration, the current study focused on the role of stress-resistance variables (mediating factors) in the relationship between various sources of stress and depression among Korean immigrants. This study investigated the relationship between stressors and depression and the effects of such mediating variables as coping strategies, social support, personal resources (mastery and self-esteem), and religiosity on the stressors-depression relationship among the Korean population.

The sample of this study consisted of 374 Korean immigrants who migrated to the United States at the age of 16 or older. Structural Equation Modeling was used to test the study hypotheses. Results found detrimental effects of stressors on the level of depression, as well as mediating effects of perceived social support and personal resources (self-esteem and mastery) on the relationship between stressors and depression. However, no mediating effects of coping strategies and religiosity on the relationship between stressors and depression were found. Implications for social work practice, research, theory, policy, and education are discussed.

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CHAPTER I

INTRODUCTION

In recent years, interest in the mental health of U.S. immigrants has increased. Studies on immigrants address how migration disrupts social ties, which places many immigrants on the margins of American society socially and economically. Immigration, particularly from a non-Western culture, is a very stressful life event (Kiefer, 1974; Kim & Hurh, 1980; Mori, 2000; Pang, 2000) that often brings serious psychological problems to the immigrants (Choi, 1997; Kiefer, Kim, Choi, Kim, Kim, Shon, & Kim, 1985; Lin & Yi, 1997). Many studies indicate a positive relationship between acculturative stress and psychological distress, especially depression (Choi, 1997; Oh, Koeske, & Sales, 2002). Research indicates the prevalence of depression among immigrant groups in general (Portes & Rumbaut, 1990) and among female immigrants in particular (Bebbington, Dunn, Jenkins, Lewis, Brugha, Farrell, & Meltzer, 2003; Felsten, 1998; Furnham, & Shiekh, 1993; Lu & Wu, 1998; Shin, 1993). Research also shows that Korean immigrants experience particularly severe depressive symptoms resulting from the stresses associated with immigration (Kiefer et al., 1985; Hurh & Kim, 1988, 1990a; Kim, 1995a, b; Kuo, 1986; Kuo & Tsai, 1986; Lee, 1988; Nah, 1993).

During the last two decades, research on the stress-depression process has undergone a fundamental change in conceptualization. Whereas traditional stress researchers envisioned stressors as resulting in pathology, stress-resistance researchers

emphasize people's capacity to remain healthy when stressors occur (Conner-Smith & Compass, 2002; Holahan, Moos, Holahan, & Brennan, 1997; Kessler, 1997; Kessler, Price, & Wortman, 1985; Kobasa, 1982; Lazarus, 1993a). Stress-resistance research has focused on the adaptive value of effective coping strategies (Boldger, 1990; Conner-Smith & Compass, 2002; Endler & Parker, 1990a; Falkman, 1992; Lazarus, 1993a, b; Lazarus & Folkman, 1984), social support (Cohen & Wills, 1985; Choenarom, Williams, & Hagerty, 2005; Dean, Kolody, & Wood, 1990; Kessler, 1997; Penninx, Van Tilburg, Deeg, Kriegsman, Boeke, & Van Eijk, 1997; Sherbourne, Hays, & Wells, 1995; Thoits, 1985), personal resources (Andrews & Brown, 1993; Brown, Andrews, Bifulco, & Veiel, 1990a; Fennell, 2004; Jang, Haley, Small, and Mortimer, 2002; Kobasa, Maddi, & Kahn, 1982; Lu & Wu, 1998; Turner & Llyod, 1999; Turner & Rozwell, 1994), and religiosity (Eliassen, Taylor, & Lloyd, 2005; Ellison & Levin, 1998; Koenig, McCullough, & Larson, 2001; Krause, Ingersoll-Dayton, Liang, & Sugisawa, 1999; Holland, Kash, Passik, Gronert, Sison, Lederberg, Russak, Baider, & Fox, 1998; Pargament, 1997) during periods of stress. Not all individuals are equally vulnerable to stressors (Conner-Smith & Compass, 2002; Holahan et al., 1997) and resilient individuals have the ability to be well adjusted despite exposure to stressors (Gomez & McLaren, 2006). Since there is a great deal of variation in the functioning and well-being among those who are exposed to stressors, it is important to understand the resistant factors that are associated with positive health outcomes.

1. Statement of the Problem

Although they have a long history of immigration to the U.S. and their numbers in the population has rapidly increased, Korean immigrants have remained one of the least understood immigrant groups (Kim, 1995a). Recent studies on Asian populations have addressed the importance of subgroup differences among Asian populations (Bhattacharya, 1998). However, in the profession of social work, there exists a lack of awareness of the unique cultural experiences and realities of the various groups that comprise the broad category of Asian Americans (Bhattacharya, 1998; Kim, 1995a). This lack of understanding creates Asian stereotypes, such as being quiet, hardworking, and a “model minority” (Kim, 1995b). This has led to other types of myths such as Asian Americans are successful and that they take care of themselves (Kim, 1995b).

In contrast to these myths and stereotypes, research indicates that Asian Americans have many social problems and maintain an inferior economic position even with comparable educational attainment (Kim, 1995b). As compared with other minority groups, Asians in the U.S. are generally underemployed (Kim, 1995b; Kim, 1989). In the case of Korean immigrants, even though their average educational level is higher than the Chinese, Japanese, Filipinos, and Asian Indians, they often hold less prestigious jobs (Kuo, 1984; Nah, 1993) and their household incomes are lower than other Asian populations (U.S. Department of Commerce, 1993). Moreover, several investigations of the Korean population have revealed various stressful experiences that cause mental health problems, such as family violence, alcoholism, juvenile delinquency, alienation of

the elderly, marital and intergenerational conflicts, and mental disorders (Kiefer et al., 1985; Kuo, 1984; Nah, 1993; Yu, 1987).

Research also shows that Korean immigrants experience particularly severe depressive symptoms resulting from the stresses associated with immigration (Kiefer et al., 1985; Hurh & Kim, 1988, 1990a; Kim, 1995a, b; Kuo, 1986; Kuo & Tsai, 1986; Lee, 1988; Nah, 1993). Several studies also indicate a higher prevalence of depressive symptoms among the Korean population on the Center for Epidemiological Studies of Depression (CES-D). For example, Kuo's (1984) investigation of the level of depressive symptoms among Chinese, Japanese, Filipino, and Korean Americans in Seattle found that Asian Americans generally reported more depressive symptoms than White respondents (7.96 to 9.35 on CES-D). He noted that the Korean sample reported the highest depression scores (14.37) on the CES-D compared with Chinese (6.93), Japanese (7.30), and Filipino (9.72) Americans. Kuo (1984) suggested several factors that might be associated with high rates of depression among Korean immigrants: shorter length of residence in the United States, higher rates of underemployment (higher educational status but lower prestige jobs), limited ability in English, and a higher concentration of small businesses located in high-risk minority districts.

Similarly, Kuo and Tsai (1986) found that Korean immigrants exhibited twice the rate of depression in comparison with Chinese, Japanese, and Filipino groups in their study. They also found that Korean groups were the most recent immigrants and experienced significantly more adaptation difficulties, more stressful events, and a higher prevalence of financial concerns than other Asian immigrant groups. Hurh and Kim

(1988, 1990a) corroborated these findings in their survey in Chicago, reporting a total CES-D score of 12.6 for Korean immigrants.

In addition, studies on Asian college students showed similar findings. Okazaki (1997) found that Asian American college students, mostly foreign-born Chinese, Korean, and Japanese Americans, reported significantly higher levels of depression than Whites respondents. Similarly, Aldwin and Greenberger (1987) showed that Korean college students in the United States were more depressed than their white counterparts. They suggested that the perceived parental traditionalism of Korean students was associated with high depression, while parental modernism was associated with lower depression.

2. Purpose of the Study

Currently, there is no research-based paradigm that specifies the pattern of psychological correlates with coping, levels of stress and depression among the immigrant population in the United States. Most research on stress and depression has been conducted mainly with White subjects and has not made comparisons across different ethnic groups. Therefore, we do not really know whether the stress and coping model that is widely accepted in the U.S. is really applicable to other ethnic groups. Considering that America is a culturally diverse society, it is crucial to understand cultural variations in the stress process for different minority groups. It is particularly necessary to understand different ways of conceptualizing stress and depression as well as coping responses to stressful circumstances. Expanding the current research on stress

and depression to different cultural groups will have significant implications for mental health service providers and policy makers.

The purpose of this study is to extend current research on stress and depression to the Korean immigrant population in the United States. While most studies on Korean immigrants focus almost entirely on the unsettling nature of immigration, the current study assumes that the immigration process varies and that many of the immigrants experience success in the new society by actively using effective coping strategies, personal resources, and social support. This study examined the role of stress-resistance variables (mediating factors) in the relationship between various sources of stress and depression among Korean immigrants. Applying Lazarus and Folkman's (1984, 1986) theory of stress and coping, which remains a popular theoretical framework in understanding stress process and coping strategies, this study investigated the effects of such mediating variables as coping, social support, mastery, self-esteem, and religiosity on the relationship between stressful life circumstances and depression among the Korean population. In accordance with the current literature indicating that those who immigrated before the age of 16 are substantially different from older adult immigrants in terms of the adjustment experiences (Noh & Avison, 1996), this study included only those who migrated to the United States at the age of 16 or older.

This study attempts to add to the current body of research by investigating a multivariate model of stress and coping for Korean populations in the United States. Specifically, the following research questions guided this study:

1. What is the relationship between stressors and depression among Korean immigrants?
2. Are the effects of stressors on depression significant after taking into account such mediating variables as coping strategies, social support, mastery, self-esteem, and religiosity?

In line with the research questions, this study tested seventeen major hypotheses. The first hypothesis posits that stressors have direct positive effects on depression. The other hypotheses posit that the relationship between stressors and depression is mediated by other independent variables such as coping, social support, mastery, self-esteem, and religiosity. In addition, the model examined hypotheses about the relationships among the mediating variables.

There are at least two reasons for studying the mental health of Korean immigrants. First, there are relatively few systematic studies of the mental health of Korean immigrants. Second, studying the mental health of Korean immigrants provides an opportunity to assess whether the stress process is a theoretical framework that can be used to understand the mental health of Korean immigrants. By examining the dynamics of the stress process among Korean immigrants, this study can correct, expand, and update the limited information on this population. Also, the results of this study could have implications for social service providers and policy makers to develop more culturally competent programs and policies and to evaluate the cultural competency of their current programs and policies.

CHAPTER II

LITERATURE REVIEW & CONCEPTUAL FRAMEWORK

This chapter presents a review of relevant literature and the conceptual framework. The first section provides a brief overview of the history and socio-demography of Korean immigrants in the United States. It describes the cultural influence on the conceptualization of depression and help-seeking patterns, and unique functions of Korean ethnic churches. This overview enhances the understanding of the Korean population in general, and depression among Koreans in particular.

In the next section, a review of literature on stress is presented. Particularly, it reviews the relationship between various sources of stress and depression, as well as the related variables. From a stress-resistance perspective, it provides an overview of the effects of mediating variables, such as coping, social support, mastery, self-esteem, and religiosity on the relationship between stressful circumstances and depression.

1. KOREAN IMMIGRANTS IN THE UNITED STATES

1.1. History and Socio-Demography of Korean Immigrants in the U. S.

Koreans have a relatively long history of immigration to the United States. The first Korean immigration began between 1903 and 1905 when thousands of Koreans came to Hawaii to work on the sugar plantations (Hurh & Kim, 1990a; Kim & Hugh, 1993; Kim, 1995a, b; Pang, 1998, 2000). Immigration to the United States was stopped, however, by the Korean Foreign Office after the Japanese protectorate treaty in 1905 (Hurh & Kim, 1990a; Kim, 1995a, b; Pang, 1998). During the 36 years of Japanese colonial rule in Korea (1910-1945), no Koreans migrated to the United States, with the exception of a thousand picture brides, most of whom came to Hawaii (Hurh & Kim, 1990a; Pang, 2000). After the Korean War, thousands of war brides and war orphans came to the United States along with a small number of professional workers (Hurh & Kim, 1990a; Kim & Hugh, 1993; Kim, 1995a, b; Pang, 1998, 2000).

Although the first Korean immigration to the United States began in 1903, most of the Korean population in the United States arrived after the passage of the Immigration and Nationality Act Amendments of 1965 (U.S. Census Bureau, 1980, 1990, 2000; Yau, 2004). Since 1980, the number of Korean residents has been growing by more than 30,000 people per year, with the highest number migrating to the U.S. between 1980 and 1990 (Arnold, Carino, Fawcett, & Park, 1989; Hurh & Kim, 1990a, b, c; Kim-Goh, 1993; U.S. Census Bureau, 2000; Yamamoto, Rhee, & Chang, 1994). There were 354,593 Koreans in the United States in 1980, and this number increased to 798,849 in 1990 and

to 1,076,872 in 2000 (U.S. Census Bureau, 1980, 1990, 2000; U.S. Department of Commerce, 1981, 1993; Yau, 2004). Koreans are the fastest growing immigrant group with the exception of Mexicans and Filipinos (U.S. Department of Commerce, 1982, 1993; Yau, 2004).

According to the U.S. Census 1990 and 2000, the foreign-born population from Korea climbed from 568,397 (72.7% of the Korean population) in 1990 to 864,125 (80.2% of the Korean population) in 2000, an increase of 52 percent (U.S. Census Bureau, 2000; Yau, 2004). Based on the U.S. Census 2000, the foreign born from Korea represent the seventh-largest immigrant group in the United States (U.S. Census Bureau, 2000; Yau, 2004).

Slightly more than one-third (34.9%) of Koreans reside in California, followed by New York (11.8%) and New Jersey (6.4%) (U.S. Census Bureau, 2000). The overall gender distribution of the Korean population in the 2000 Census showed 44.61% of males and 55.39% females (U.S. Census Bureau, 2000). In terms of marital status, 59.3% of Koreans were married, 31.9% were single, and 9.6% were widowed, divorced or separated in the 2000 Census (U.S. Census Bureau, 2000). Unlike the earlier Korean immigrant groups, these recent immigrants have a high level of education. For example, Census 2000 revealed that 49.2% of the Korean population aged 25 years and older were college graduates, whereas 28.4% of Non-Hispanic White and 26.8% of the total population in the U.S. were college graduates (U.S. Census Bureau, 2000).

1.2. Conceptualization of Depression among Korean Immigrants

Depression has been identified as a mental disorder frequently misdiagnosed by primary health care providers, especially among the members of ethnic minority groups (Badger, McNiece, & Gagan, 2000; Kim, 1995b). Clinical literature indicates that the early diagnosis of mental illness is critical in minimizing both the short and long-term effects on individuals and their families (Badger et al., 2000; Kim, 1995b). However, community health care workers often experience difficulty assessing depression and implementing appropriate interventions for Korean-American clients because the conceptualizations and manifestations of mental illness in Korean culture are different from those in Western culture. A closed hierarchical social structure and a strong stigma associated with revealing emotions are identified to be associated with the somatic or holistic conceptualizations of illness among Korean populations (Mori, 2000; Lin & Yi, 1997).

Most studies on Korean immigrants indicate that the family and its shared traditional values are important factors in relation to emotional status, interpersonal relationships, and coping strategies (Kim, 1995b; Pang, 2000). Korean cultural orientations are based on Confucianism (cited in Kim, 1995b), which emphasizes harmony in family and interpersonal relationships. Within this cultural context, patience and sacrifice of oneself are considered critical for family and interpersonal harmony (Kim, 1995b). For the same reason, withholding negative feelings and coping in accommodative manners are considered more desirable than disagreement and open argument (Kim, 1995a). Such restraints are expected between married couples, parents,

children, and even between co-workers. Sacrifice and love are used almost interchangeably in Korean culture, especially in family contexts (Pang, 2000).

1.2.1. Somatic Expression of Depression

Korean populations tend to express depression somatically, such as back or chest pain, headaches, indigestion, dizziness, insomnia, and muscle pain (Kim, 1994; Kim, 1995a; Pang, 1994, 1998, 2000). Also, Koreans tend to somatize when they express disturbed emotions or just express their emotions metaphorically. For example, when they are happy, they say, “I feel like living”. When unhappy, angry, under stress, or depressed, they say, “I feel like dying” or “The intestines are violently twisting!” To describe jealousy, one says, “I have stomachaches” (Kim, 1994; Pang, 1994, 1998, 2000).

It has been a challenge for health care providers that Koreans express their emotional symptoms via physical pain while restraining emotional discomfort (Lin & Cheung, 1999; Mori, 2000). However, Cheung (cited in Lin & Cheung, 1999) has found that although Asian patients tend to selectively report their symptoms and focus on somatic symptoms when visiting a physician, they are well aware of their emotional symptoms as well as stressors related to the symptoms. Similarly, Lin and Cheung (1999) indicated that Asian patients, when asked more specifically, did not have difficulties in identifying and reporting psychological symptoms.

1.3. Underutilization of Mental Health Services

Literature has consistently reported the underutilization of mental health services by Asian-Americans (Abe-Kim, Takeuchi, & Hwang, 2002; Boey, 1997; Kim-Goh, 1993; Shin, 1999). Literature also suggests that this underutilization is not simply due to their lack of need for mental health services (Furuto, Biwas, Chung, Murase, & Ross-Sherif, 1992; Kuo, 1984). The low utilization of mental health services by Asians created a stereotypical view that the Asian population is well adjusted and has few mental health problems (Lin & Cheung, 1999). However, this view inhibits the development of culturally competent treatment and research for this group and justifies the lack of public attention and structural assistance (Lee, Lei, & Sue, 2001).

A majority of investigations suggest that the prevalence rates of mental health problems among Asian Americans have been underestimated (Furuto et al., 1992; Kuo, 1984). The existing statistics on the incidence or prevalence of psychiatric or mental disorders among Asian Americans mainly came from the rates of their utilizing public facilities, such as their admissions and length of being institutionalized (Kuo, 1984). Assessing the prevalence or rates of mental disorders based on the treatment data alone has been criticized. For example, Roberts (1980) claimed, "Psychiatric treatment is often the end product of a chain of events involving the interaction of such factors as disease processes and use of health services, as well as knowledge, attitudes, and behavior of the persons affected and of the care providers" (p.135). As an alternative to this traditional approach, the idea of examining the incidence and prevalence of mental disorders in community populations has been introduced and emphasized.

However, there is simply not enough community-based research that investigates the prevalence of mental health problems among Asian Americans (Lee, Lei, and Sue, 2001; Zhang & Snowden, 1999). So far the existing number of population-based studies on Asians is extremely small and those studies have produced inadequate data on the rates of mental disorders among Asian Americans. The dearth of information on more recent Asian immigrant groups also suggests that research has been insensitive to the shifting population composition among Asians.

For Asian populations, the culture-based conceptualization of mental illness is found to be a significant factor of their coping and help-seeking behavior (Abe-Kim, Takeuchi, & Hwang, 2002; Lin & Yin, 1997). The Asian culture views mental illness as stigmatizing (Boey, 1997; Shin, 1999) and discourages disclosing their emotional problems because it is expected that a mature person should be able to restrain their feelings or control their emotional problems (Kim-Goh, 1993). Due to the fear of social stigma or losing face, Asians tend to be hesitant in seeking out professional help or using mental health services (Kim, 1995b).

In addition, it is found that the value of family self-reliance in solving problems within the immediate family (Kim, 1995b) is significantly related to the help-seeking pattern in Asian populations. Therefore, help-seeking is usually a joint family venture for Asian Americans rather than an individual decision (Lin & Cheung, 1999). Furthermore, Kitano (1982) indicated that some Asians tend to hide mentally disturbed individuals within their family, instead of taking them to public service systems. The reluctance to seek professional help in fear of losing family face may aggravate their disease. For

example, Lin and Cheung (1999) found that Asians are rarely committed to mental health institutions until their conditions are extremely severe and all other resources have been exhausted. Similarly, evidence collected in Seattle revealed that the mean days of delay in help seeking for Asian-American patients well surpassed that of Caucasian and African American patients (Lin, Inui, Kleinman, & Womack, 1982). Furthermore, it has been reported that depressed Asian Americans tend to significantly delay seeking professional help (Boey, 1997; Shin, 1999). Therefore, the conditions of Asian patients have been found to be significantly more severe and chronic than those of patients from other cultural backgrounds, consequently requiring more intensive treatment and longer institutionalization (Lin & Cheung, 1999).

Moreover, Lin et al. (1982) indicated the lack of differentiation between psychological and physiological processes as one of the reasons for the underutilization of mental health services by the Asian population. Due to the Asian traditions of viewing the body and mind as unitary rather than dualistic, Asians tend to focus more on physical discomforts than emotional symptoms (Lin & Cheung, 1999). Similarly, many Koreans express depression in somatic ways, thus primary health care workers often have difficulties assessing depression in Korean clients and tend to focus on physical symptoms only, ignoring possible underlying emotional problems.

In addition, the cultural gap between clients and clinicians is also indicated as a significant barrier in using mental health facilities among the Asian population (Shin, 1999). Consistently, the match in client-clinician language and ethnicity is shown to be related with the increase in the number of therapy sessions among Asian clients (Kim-

Goh, 1993; Shin, 1999). Furthermore, using inappropriate clinical approaches (Matsushima & Tashima, 1982), Asians' unawareness of the public facilities or their inaccessibility (Boey, 1997), and the Asians' little experience with mental health services in their homelands are just a few of the many reasons mentioned as to why Asian populations are underrepresented in mental health care utilization.

1.4. Korean Ethnic Churches in the U.S.

Historically, the Korean ethnic church has been identified as the most important and powerful social organization in the Korean community in that it meets the social and cultural needs as well as the spiritual needs of the Korean population (Choy, 1979; Bjorck, Lee, & Cohen, 1997). Some Korean immigrants affiliate with one or more ethnic associations such as alumni and occupational associations, but these associations are identified as less effective than churches in terms of maintaining social interactions and friendship networks with other Koreans (Min, 1992).

Research has indicated a very high rate of church participation by the Korean population in the United States. For example, Kim (1980) indicated in the study of Asian-Americans in Chicago that 71% of the Korean immigrants were affiliated with Christian churches, compared to 32% of his Chinese sample and the 28% of the Japanese sample. According to Hurh and Kim's (1984, 1988) studies in Los Angeles and Chicago, 69.9% of the L.A. Koreans and 76.8% of the Chicago Koreans is reported to be affiliated with Korean ethnic churches, and 83.5% of the L.A. sample and 73.8% of the Chicago sample is reported to attend church at least once a week. In Bjorck, Lee, and Cohen's (1997)

study, about 65% of the Korean sample is reported to be Protestants and approximately 80% of them to attend church weekly. Similarly, more than 70% of Korean immigrants in Kim and Hurh's (1993) study were found to be affiliated with Korean Christian churches, even though many of them were non-Christian before immigration. Other studies agree that over 70% of Korean Americans are said to be self-claimed Christians compared to only 13% of the total population in South Korea in 1982, and 18-21% since 1986 (Hurh & Kim, 1984; Kim & Hugh, 1993).

Such a significant increase of the church-affiliation among Koreans living in the U.S. may be attributed to the particular social functions of Korean ethnic churches. Korean ethnic churches generally meet the need for maintenance of social interactions and friendship networks with fellow Koreans. Moreover, Korean ethnic churches help Korean immigrants preserve Korean language and culture since the Korean language and customs are used in the Korean churches. For instance, many Korean ethnic churches provide their children with Korean language programs for the purpose of heritage language development and retention. Furthermore, Korean ethnic churches provide information and services for initial immigration orientation and successful adjustment in the U.S. There are few formal social service agencies in the Korean community that new immigrants can rely on for assistance. Therefore, the Korean ethnic church has been the only social institution that most Korean immigrants turn to for adjustment help (Min, 1992).

2. DEPRESSION

The National Institute of Mental Health (1973) reported more than forty years ago that the prevalence of depression in the United States had become a major health problem with from two to four out of every 100 Americans requiring treatment each year. Around that time, Weissman and Klerman (1977) estimated that 8 to 18 percent of the population may suffer from symptoms of depression at any time. More recently, it was reported that depression is the most common mental health disorder in primary health care settings (Badger et al., 2000). The World Health Organization (1999) indicated that depression is the fifth top reason for loss of productive life years in the world. It is also reported that depression ranks first among causes of disability in America and is in the top five in every other world region (WHO, 1999). By the year 2020, it is predicted that depression will have a detrimental effect on an individual's quality of life more than any other condition (WHO, 1995).

Consistent with this prediction, the prevalence of depression has increased strikingly over the last century (Badger et al., 2000; Choenarom et al., 2005; Dean, Lin, & Ensel, 1981; Dean et al., 1990; Kessler, 1997; 2002; Sherbourne et al., 1995). This indicates the need for social workers and health care professionals to be informed with the most recent research and to prepare for effective interventions for depression. However, our lack of knowledge about the possible sources of depression results from inconsistent or mixed empirical support (Choenarom et al., 2005).

Among those who have depressive symptoms there is a great deal of variation in functioning and well-being. Because of the significant personal, clinical, and societal

implications associated with depression, it is important to understand what factors are associated with better health outcomes. Researchers generally agree that stressors, social support, coping, personal resources, and religiosity are known to be important resistant variables to depression (Sherbourne et al., 1995; Holland et al., 1998; Holland, Kash, Passik, Kash, Russak, Gronert, Sison, Lederberg, Fox, & Baider, 1999).

3. STRESS

One important focus of depression research is on stress and coping. A substantive body of research has found that stress and depression form a vicious cycle whereby one aggravates the other (Kessler, 1997). According to Wheatley (1997), when stress lasts for a long period of time, depression may develop in a subtle way, whereas depression successively prohibits the ability to cope with stress. According to Kessler (2002), nearly all individuals with depressive disorder report significant life stress before an episode. Furthermore, Hammen (1992) suggested that depression can exacerbate certain stressful events and difficulties. Therefore, there is a mutually reinforcing negative pattern of interaction between stress and depression.

However, not all people who experience stress become depressed. Also, for those who become depressed, the severity of depression can vary (Choenarom et al., 2005). There have been consistent efforts to explain the variation in the relationship between stress and depression in terms of stress modifying effects (Kessler, 1997). Studies exploring stress mediating or stress resistant factors have shown inconsistent findings in terms of the factors that intervene on the stress-depression relationship and the variation

that each factor explains in the relationship (Choenarom et al., 2005). Therefore, there is a need to extend and elaborate the investigation of the stressor-depression relationship by examining the variables which mediate the potential occurrence of stress and depression.

3.1. Conceptualization of Stress

Stress refers to “any environmental, social, or internal demand which requires the individual to readjust his/her usual behavior patterns” (Thoits, 1995, p. 54). Stress reaction refers to “the state of physiological or emotional arousal that usually results from the perception of stress or demand” (Thoits, 1995, p. 54). Stressors refer to the various sources of stress.

According to Lazarus and Folkman’s (1984) cognitive-phenomenological theory of stress and coping, the relationship between stressful events and emotional outcomes is mediated by two processes: cognitive appraisal and coping. Cognitive appraisal is the process through which people evaluate both the significance of a specific stressful encounter (primary appraisal) and the options for coping (secondary appraisal) (Carver, Scheier, & Weintraub, 1989; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986b; Lazarus & Folkman, 1984). Coping is the process of performing the preferred options (Folkman et al., 1986b). Lazarus and Folkman (1984) addressed psychological distress occurring when an individual appraises a situation as threatening in primary appraisal and perceives his or her resources for coping with it as inadequate in secondary appraisal (Carver et al., 1989; Folkman et al., 1986b).

3.2. Sources of Stress: Stressors

Literature has investigated three major forms of stressors or stressful circumstances: negative life events, chronic strains, and daily hassles. Among these three stressors, life events and chronic strains are most frequently investigated. Therefore, in stress research stressors generally refer to the experience of negative life events and chronic life strains which are undesirable conditions that disrupt usual activities either acutely or chronically.

Life events are acute changes which require major behavioral readjustments within a relatively short period of time. Although a number of positive and negative life changes can overwhelm in a short time the individual's ability to readjust, theoretical and empirical findings specify only negative circumstances as stressors. Negative life events are culturally or personally undesirable changes in the usual activities of an individual that require substantial behavioral readjustments (Thoits, 1986; Brown & Harris, 1978). Examples include bereavement, divorce, job loss, and serious illness.

Chronic strains are persistent or recurrent demands which require daily readjustments over prolonged periods of time (Thoits, 1986, 1995). These are conditions that repeatedly interfere with the adequate performance of ordinary role-related activities (Pearlin, 1983; Pearlin & Schooler, 1978). Examples include disabling injury, chronic illness, poverty, marital conflict, and excessive job responsibilities (Avison & Turner, 1988).

Theoretically, only stressors that are perceived to have undesirable implications for self-concept should have negative psychological consequences through potential or

actual loss of self-esteem, sense of mastery, or identity (Lazarus & Folkman, 1984, Thoits, 1986). Empirically, it is well established that only negative stressors, especially those subjectively rated as undesirable, increase indicators of distress or disorder, while positive events have only minor effects on psychological symptoms (Thoits, 1986).

3.3. Effects of Stress on Depression

Stress research has shown that both stressful life events and ongoing strains are associated with depression (Brown & Harris, 1978; Llyod, 1980, Pearlin, Lieberman, Menaghan, & Mullan, 1981). Studies have shown that undesirable life events have significant main effects as well as interaction effects with social support on depression (Cohen & Hoberman, 1983). A number of studies indicated that negative life events predict physical morbidity, mortality, symptoms of psychological distress, and psychiatric disorder (Cohen & Williamson, 1991; Coyne & Downey, 1991; Thoits, 1983). In addition, researchers claimed that negative life events yield serious emotional problems when the events themselves trigger persistent or recurrent strains (Aneshensel, 1992; Avison, 1993; Pearlin et al., 1981).

Although research on the effects of chronic strains on depression has lagged behind the study of life events (Coyne & Downey, 1991; Kessler, 1997; Kessler, Price, & Wortman, 1985), studies have consistently shown that chronic strains are also detrimental to physical and mental health (Avison & Turner, 1988; Brown & Harris, 1978; Pearlin & Johnson, 1977; Pearlin et al., 1981). Some studies indicate a significant relationship between chronic strains and depression (Mirowsky & Ross, 1989; Pearlin, 1989). In

addition, Turner (1983) indicated that chronic strains have interaction effects with social support on depression. Moreover, Brown and Harris, (1978) and Pearlin et al. (1981) found that chronic stresses mediate the relationship between life events and depression in a community sample. For example, they found that income loss affected psychological well-being by exacerbating already existing financial difficulties. Regarding the interplay between life events and chronic strains, some researchers emphasized that life events bring about chronic stressors (Kessler, 1997; Thoits, 1982), while others suggest that continuing stresses can exacerbate the effects of life events (Brown & Harris, 1978).

Recently, stress researchers began to imply the positive effects of stress. They suggest that negative life events do not always have negative health or mental health consequences, because individuals often actively and successfully solve the problems. For example, Turner and Avison (1992) argue that only unresolved negative events should have damaging psychological consequences and are associated with depression. On the other hand, successfully solved problems were unrelated to increased depressive symptoms (Thoits, 1994).

Implicit here is that individuals are activists on behalf of their own well-being as constructing and reconstructing their life circumstances and resources in face of stressors (Thoits, 1994). People deliberately engage in problem-solving and actively reconstructing their life circumstances and resources when faced with stressors. Therefore, not all negative events have negative consequences. Moreover, individuals are motivated to improve their well-being, thus they purposefully plan positive events in their lives to nullify the negative aspects (Thoits, 1994).

3.4. Perceived Stress

A recent trend in stress research is the focus on subjective appraisal of life stress rather than on objective measure of the stressors (Hewitt, Flett, & Mosher, 1992). It is a very important trend in that the impact of life stressors may vary across individuals depending on their subjective perception of the stressors (Hewitt et al., 1991). Perceived stress is defined as the extent to which an individual's circumstances are appraised as unpredictable, uncontrollable, and overloading (Cohen, 1986; Cohen, Kamarachi, & Mermelstein, 1983).

Kuiper, Olinger, and Lyons (1986) found that for people with high levels of perceived stress, negative life changes had a pronounced negative effect on depressive symptoms, whereas for those with low levels of perceived stress, negative life changes had only a minimal impact on depression level. This situation has been explained by pessimistic cognitive appraisal that increases the depressive symptoms among individuals with high levels of perceived stress (Garber, 1992). Aneshensel & Stone (1982) supported the predictability of perceived stress on depression among various populations. Moreover, Choenarom et al. (2005) found in their longitudinal study that increased perceived stress had significant direct effects on the severity of depression and the effects were consistent over the nine months of the study period.

4. COPING

The construct coping has received considerable attention in the social and psychological literature, most frequently as a mediator between stress and depression

(Billing & Moos, 1984, Dohrenwend & Dohrenwend, 1981; Folkman & Lazarus, 1980, 1986; Pearlin & Schooler, 1978; Sherbourne et al., 1995). Coping strategies are reported to play a major role in an individual's physical and psychological well-being when he or she is confronted with stressful life events.

4.1. Approaches to Coping: Trait-oriented vs. Process-oriented Approaches

Theories of coping emphasize that coping strategies are shaped by situational characteristics as well as by stable characteristics of the individual (Lazarus & Folkman, 1984). Therefore, coping theorists have developed two approaches; style- or trait-oriented and process-oriented approaches (Carver et al., 1989; Folkman et al., 1986b; Lazarus, 1993a, b). The critical difference between the two approaches is the significance given to the psychological and environmental context in which coping takes place (Folkman et al., 1986b).

The trait-oriented or style-oriented approach views coping as a personality characteristic, primarily a property of the person, and variations in the stressful situation are of little importance (Folkman et al., 1986b; Lazarus, 1993b). According to this view, there are stable coping styles or dispositions that people bring with them to the stressful situations that they encounter and this preferred set of coping strategies remains relatively fixed across time and circumstances (Carver et al., 1989). For example, trait-oriented coping researchers have shown that people with high levels of self-esteem or perceived control are more likely to use active, problem-focused coping, whereas people with low

self-esteem or perceived control should tend to use more passive or avoidant emotion-focused coping.

In contrast, the process-oriented approach emphasizes the temporal and contextual influences on coping as well as the changes associated with them and views coping as a response to the psychological and environmental demands of a specific stressful encounter (Folkman et al., 1986b; Lazarus, 1993a, b). In the process-oriented approach, coping is viewed as a dynamic process that shifts in nature from stage to stage of a stressful transaction (Carver et al., 1989). From a process perspective, coping changes over time and depends on the situational context. Although evidence has shown that coping is strongly affected by both situational and personal factors, the major trend of coping research views coping as a process, not an isolated set of independent actions (Lazarus, 1993a & b). Lazarus and Folkman (1984) have argued that situational factors play an important role in directing the coping strategies individuals select. Consistent with this view, Fleishman (1984) claimed that coping was affected more by the presence of stressful conditions than by person-based variables.

4.2. Conceptualization of Coping

Conceptualizations of coping have been shaped by social learning theory and cognitive behavior theory. Social learning theorists (e.g., Bandura, 1977) have emphasized the process of reciprocal interaction between the person and the environment, and cognitive behavior therapists (e.g., Meichenbaum, 1977) have stressed the role that cognitive processes play in therapeutic change. However, current conceptualizations of

coping have been most largely influenced by Lazarus and Folkman (1984). Lazarus and Folkman's (1984) cognitive-phenomenological theory of stress and coping has focused on the role of cognitive appraisal in guiding coping efforts. All of these theories view the individual as an activist in explaining his or her psychological world and in utilizing resources to manage or modify the stressors (Kessler et al, 1985).

Coping is considered a stabilizing factor that can help individuals maintain psychosocial adaptation during stressful periods (Lazarus & Folkman, 1984; Moos & Billings, 1982). Broadly, coping has been defined as "any efforts at stress management" (Cohen & Lazarus, 1979, p.220), "things that people do to avoid being harmed by life strains" (Pearlin & Schooler, 1978, p.2), and "overt and covert behaviors that are taken to reduce or eliminate psychological distress or stressful conditions" (Fleishman, 1984, p.229).

The most popular definition was made by Lazarus & Folkman (1984), who defined coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). Lazarus and Folkman's definition of coping is process oriented, focusing on the person's actual thoughts and acts in a specific stressful encounter, and the changes as the encounter unfolds (Folkman et al., 1986b). In addition, Lazarus and Folkman view coping as contextual, meaning that particular personal and situational variables together shape coping efforts (Lazarus & Folkman, 1984; Folkman et al, 1986b). Furthermore, they defined coping simply as a person's efforts to manage

demands, whether or not the efforts are successful, without any a priori assumption about what is good or bad coping (Lazarus & Folkman, 1984; Folkman et al, 1986b).

4.3. Dimensions of Coping

Although a variety of categorical dimensions have been identified (Connor-Smith & Compas, 2002; Moos & Billings, 1982; Moos & Schaefer, 1993), the two most frequently cited approaches to classify coping are the problem-focused vs. emotion-focused dimensions (Folkman & Lazarus, 1980, Folkman et al., 1986) and the approach vs. avoidance dimensions (Billings & Moos, 1981; Suls & Fletcher, 1985). These coping constructs overlap, which has caused confusion in interpreting results of coping studies (Felsten, 1998).

Folkman & Lazarus (1980, 1986) proposed two ways of coping with stressors: problem-focused and emotion-focused strategies. This typology emphasizes coping as having one of two functions: managing of a problem (problem-focused coping) and regulation of emotion (emotional-focused coping) (Blalock & Joiner, 2000; Carver et al., 1989; Folkman, 1992). Problem-focused coping functions to change the sources of stress and emotion-focused coping to manage the person's emotional response to the stressor (Blalock & Joiner, 2000; Carver et al., 1989; Folkman et al., 1986b; Folkman & Lazarus, 1980, 1986; Lazarus, 1993a). For example, problem-focused coping consists of direct actions on the environment or the self to remove or change circumstances appraised as threatening (Lazarus, 1993a; Thoits, 1986). And, emotion-focused coping consists of

actions or thoughts to control or regulate the undesirable feelings that result from stressful circumstances (Thoits, 1986).

Another popular typology of the coping process is approach and avoidance coping, also referred to as active and passive coping (Billings and Moos, 1981; Cronkite & Moos, 1995). This approach classifies coping in terms of the individual's orientation to the problem (Blalock & Joiner, 2000; Cronkite & Moos, 1995), distinguishing between strategies oriented toward approaching and confronting the problem and strategies oriented toward avoiding dealing directly with the problem (Roth & Cohen, 1986). Approach coping refers to a person's tendency to attend to a stressor by seeking information or closely monitoring the stressor (Bernard, Cohen, McClellan, & MacLaren, 2004; Finset, Steine, Haugli, Steen, & Laerum, 2002; Herman-Stahl, Stemmler, & Petersen, 1995). Avoidance coping refers to a passive way of relating to the stressor, or an active orientation away from the stressor, such as denial, diversion, or escape (Endler & Parker, 1990a, b; Folkman & Lazarus, 1988). These two orientations represent both cognitive and emotional activity oriented either toward or away from threats (Bernard et al., 2004).

4.4. Cognitive Appraisal and Coping

Lazarus and Folkman's (1984) cognitive-phenomenological theory of stress and coping presents that cognitive appraisals may moderate the role of coping in the stress process both by shaping the choice of coping strategies and by influencing coping outcomes. In the primary appraisal, the person evaluates whether he or she has anything

at stake in this encounter. In the second appraisal, the person evaluates various coping options, such as altering the situation, accepting it, seeking more information, or holding back from acting, etc (Folkman et al., 1986b).

The appraisal process is followed by particular coping strategies. In general, problem-focused or approach coping is more likely used when situational demands are appraised as controllable, while emotion-focused or avoidance coping is more likely used when demands seem uncontrollable (Barnett & Gotlib, 1988; Billing et al, 1983; Carver et al., 1989; Folkman & Lazarus, 1980, 1985; Folkman et al., 1986b; Holahan & Moos, 1987; Lazarus, 1993a, b; Thoits, 1991). In other words, problem-focused or approach coping tends to be used in the situations that people think something constructive can be done, whereas emotion-focused or avoidance coping tends to be used when people feel that the stressor is something that must be endured (Carver et al., 1989; Folkman & Lazarus, 1980, 1985, Folkman et al, 1986b).

Moreover, research evidence shows that the fit between cognitive appraisals and the choice of coping mechanism influences psychological outcomes. For example, Vitaliano and his colleagues (Vitaliano, DeWolfe, Majuro, Russo, & Karon, 1990) found in their community samples that when stressors were appraised as controllable, problem-focused coping predicted less depression and emotion-focused coping predicted more depression.

4.5. Effects of Coping

It is generally held that coping has a moderating effect on depression in stressful situations. Across a wide range of normal and clinical samples, problem-focused and approach coping have generally been associated with positive outcomes, whereas emotion-focused and avoidance coping have usually been associated with negative outcomes (Billing & Moos, 1981, 1984; Bolger, 1990; Carver et al., 1989; Endler & Parker, 1990a; Felton & Revenson, 1984; Folkman & Lazarus, 1985, 1986; Folkman et al., 1986a, b; Holahan & Moos, 1986; Kobasa, et al., 1982; Lazarus & Folkman, 1990a, b; Menaghan, 1982; Pearlin & Schooler, 1978; Vitaliano et al., 1990). Studies have indicated that depressed and nondepressed individuals differ in the frequency and types of coping behaviors they use (Billing & Moos, 1984). For example, it has been reported that depressed individuals use less problem solving and more emotional discharge (Billing & Moos, 1984; Ravindra, Matheson, Griffiths, Merali, & Anisman, 2002), wishful thinking, avoidance, and emotional support seeking (Coyne, Aldwin, & Lazarus, 1981). Similarly, Parker and Brown (1982) found less socialization and distraction seeking and more passivity among depressed individuals. Moreover, Folkman and Lazarus (1986) found in a comparison of depressed to nondepressed adults that the depressed subjects tend to use more escape-avoidance, confrontive coping, responsibility acceptance, self-control, and social support-seeking behaviors.

Similarly, research has indicated that those who use more effective coping behaviors would function more effectively and experience fewer depressive symptoms (Bruder-Mattson & Hovanitz, 1990; Rhode, Lewinsohn, Tilson, & Seeley, 1990). For

example, Sherbourne and his colleagues' (1995) study with 604 depressed outpatients finds that active coping strategies, such as talking to a professional to get more information about the problem and talking to a friend or relative were strongly related to improvements in mental health over time. On the other hand, avoidance coping styles, such as hoping for a miracle, making oneself feel better by eating, smoking or drinking, deciding to spend more time alone, and sleeping more than usual, were related to the development of a new episode of major depression among patients without current major depression (Sherbourne et al., 1995). Haghghatgou and Peterson (1994) also extended these results to their Iranian students, finding that student who used active coping strategies reported less depression than the students who used passive coping strategies.

Despite these findings, there is no clear consensus in the literature regarding which coping strategies are most effective in reducing psychological distress (Mattlin, Wethington, and Kessler, 1990). Most likely, no one coping strategy is effective across all situations. A coping strategy that produces positive outcomes in one context, or in one person, may not in another (Lazarus, 1993a). As Pearlin and Schooler (1978) suggested, a variety of coping modes may be much more important than any one particular coping strategy. Since understanding the process that leads to differences in coping is very important in relation to depression, more theoretical and empirical work on the nature and background of different coping strategies is needed.

5. SOCIAL SUPPORT

The importance of social support for health-related quality of life, particularly mental health and emotional well-being, has been consistently supported in the literature (Kessler et al., 1985; Sherbourne et al., 1995). A large body of research has focused on social support as a mechanism that protects people from the deleterious effects of stress and provides beneficial effects on psychological adaptation (Barnett & Gotlib, 1988; Ell, 1996; Turner, 1981). In relation to depression, it is reported that social support is influential in alleviating depression (Barrera & Garrison-Jones, 1992; Cohen & Hoberman, 1983). In terms of acculturative stress, Lee, Koeske, & Sales (2004) report that social support buffers the relationship between acculturative stress and depression among Korean immigrants.

The study of social support has been developed primarily from epidemiological data, rather than from a theory (Heller, Swindle, & Dusenbury, 1986; Saranson, Saranson, & Pierce, 1990; Shumaker & Brownell, 1984; Vaux, 1988). However, social integration theory and symbolic interaction theory can provide some theoretical background for social support research. Social integration theory states that participation in a cohesive society protects individuals against disordered functioning (Thoits, 1982). Numerous studies that suggest independent effects of social support on depression are based on social integration theory. According to symbolic interaction theory, participation in social relationships, especially in close or intense relationships, affects psychological well-being by providing the individual with stable identities and positive self image (Mirowsky & Ross, 1989).

Recently however, social support investigators have been most strongly influenced by stress and coping theories (Dunkel-Schetter, Folkman, & Lazarus, 1987; Lieberman, 1986). In this framework, social support is viewed as stress-related interpersonal transactions in which network members provide aid with a problem. Social support in this sense is viewed as a coping strategy in the face of stress (Lieberman, 1986). Likewise, Thoits (1986) conceptualized this function of social support as coping assistance.

5.1. Conceptualization of Social Support

Empirical analyses suggest that social support is a multidimensional concept (O'Reilly, 1995; Streeter & Franklin, 1992; Vaux & Harrison, 1985; Veiel, 1985). Despite the advances and proliferation of research on social support, there is a lack of consensus with regard to the definition of social support (Starker, 1986; Tilden, 1985; Vaux & Harrison, 1985; Winemiller, Mitchell, Sutliff, & Cline, 1993). Therefore, various conceptualizations of social support have been extensively considered in the literature (Cohen & Wills, 1985; House 1981; Turner, 1983; Vaux, 1987, 1988).

For example, Cobb (1976) defines social support as information that one belongs to a socially coherent community and that one is loved, esteemed, and valued. Johnson and Saranson (1979) define social support as the degree to which individuals have access to social resources in the form of relationships which they can rely on. House (1981) regards social support as an interpersonal transaction involving concern, aid, and information about oneself and the environment. According to House and Kahn (1985),

social support refers to the functions performed for the individual by significant others, such as family members, friends, coworkers, relatives, and neighbors.

Despite the diversity in the definition of social support, Barrera (1986) organized social support concepts into three broad categories: social embeddedness, enacted support, and perceived social support. Social embeddedness refers to the connections that individuals have to significant others in their social environments (Barrera, 1986). Enacted support refers to the actions and behavior provided in the form of assistance (Barrera, 1986). The term “enacted” comes from Tardy (1985), who described behavioral aspects of support to distinguish from available support. Perceived social support characterizes social support as the cognitive appraisal of being reliably connected to others (Barrera, 1986). This concept also fits stress and coping models that emphasize the appraisal of potentially threatening situations and resources engaged in coping efforts (Lazarus & Folkman, 1984).

Similarly, Vaux, Phillips, Holly, Thomson, Williams, and Stewart (1986) view social support as a meta-construct, encompassing three major components: (a) support network resources, which refers to the size, structure, and relationship characteristics of support networks, (b) specific supportive acts, which refers to actual supportive behaviors rendered by social others, and (c) subjective appraisals of support, which refers to perceptions and beliefs that one is involved, cared for, and respected. These facets of social support were found to be relatively independent (Sandler & Barrera, 1984).

5.2. Types of Social Support

Social support is most popularly categorized into two basic types: psychological and instrumental support (Veiel, 1985). Similarly, Dean and Lin (1977) distinguished instrumental support from expressive support. According to Norbeck and Tilden (1983), emotional and tangible support represents empirically two distinct dimensions and they have different effects on mental health.

Expanding this basic categorization, Gottlieb (1978) classified social support into four different types: emotionally sustaining behaviors, problem solving behaviors, indirect personal influence (a person's conviction of helper availability if needed), and environmental action (social advocacy on behalf of another). More recently, Schaefer, Coyne, and Lazarus (1981) indicate that social support is comprised of three types: emotional support (attachment, reassurance, and a sense of being able to rely on), informational support (advice or feedback), and tangible support (direct aid and the giving of material services).

However, the most popular typology comes from House (1981). He tried to structure the definition by questioning "who gives what to whom regarding which problem" (p.22). Reviewing the divergent definitions of social support in the literature, House (1981) offered four aspects of support: (a) emotional support, referring to demonstrations of love, caring, esteem, sympathy, and group belonging; (b) appraisal support, referring to affirmation, feedback, and social comparison; (c) informational support, referring to communications of opinion or fact relevant to current difficulties; and (d) instrumental support, referring to actions or materials provided. Further, House

(1981) and later House and Kahn (1985) noted that emotional support is the most strongly associated with buffering stress and facilitating mental health.

5.3. Effects of Social Support

Literature has presented both main effects (Bruhn & Phillips, 1984; House, 1981; Lin, 1986) and buffering effects of social support (Choenarom et al., 2005; Cobb, 1976; Cohen & Willis, 1985; Kahn & Antonucci, 1980; Kaplan, Cassel, & Gore, 1977; House, 1981; Lin, 1986; Lin, Simeone, Ensel, & Kuo, 1979).

The main effects model hypothesizes that social support provides beneficial effects on mental health independent of life stressors. These beneficial main effects are thought to stem from a sense of well-being due to group acceptance, assistance, and stable environments (Cohen & Wills, 1985). For example, Aneshensel and Frerichs' (1982) investigation presents that social support has a direct, positive impact on the individual's psychological well-being irrespective of the level of stress.

The buffering or mediating model posits that social support alleviates the impact of life stressors on mental health (Lin & Ensel, 1989). It states that social support mitigates the adverse effects of stressors on depression only in times of high stress, thus significantly reducing the psychological impacts of stress (Cheng, 1997; Cohen & Wills, 1985; Dean & Ensel, 1982; Dean et al., 1990). Beneficial buffering effects of social support are viewed to enhance the individual's sense of mastery in coping with life stress and boost self-esteem and to diminish helpless feelings (Cohen & Wills, 1985; Cheng, 1997).

Lin, Ensel, Simeone, and Kuo (1979) indicated in their study on the effects of social support and stressors on psychiatric illness that the contribution of social support to predicting illness is greater in magnitude than that of stressful life events. In addition, Dean and Ensel's (1982) investigation on the causal relationships among social support, personal competence, and depression corroborates this finding in that social support has the largest and the most consistent direct and total effect on depression across the various age and gender categories. Furthermore, in another study on the effect of life change, social support, and psychological resources on depression among young men and women aged 17-24, Dean and Ensel (1983) indicate that social support is the single most important factor accounting for depression in young males and females.

In addition, Roger and his colleagues (1982) found a main effect of social support on depressive symptoms. They also found that social support serves an important buffering function against the negative effects of life events. Moreover, they presented that increasing levels of social support are particularly helpful in alleviating the effects of life events on depressive symptoms. For example, they found that those in the low level of social support appeared to experience the greatest impact of stressful life events. In contrast, those in the high level of social support, while still showing increased symptom scores, experienced the buffering effect of social support by showing less severe distress (Roger et al., 1982).

Penninx, Van Tilburg, Deeg, Kriegsman, Boeke, and Van Eijk (1997) confirmed both main and buffering effects of social support among individuals with arthritis. They found that the presence of a partner and having many close relationships had direct

favorable effects on depressive symptoms. They also found that in the presence of stressful circumstances, having many diffuse relationships, such as friends and neighbors, and receiving emotional support had buffering effects on depression.

5.4. Perceived Social Support

It is argued in the social support literature that network utilization is not equivalent to social support, unless the quality of an interpersonal relationship is perceived to be satisfactory (Belle, Leroy, & Stephenson, 1982; Lee, Crittenden, & Yu, 1996; Pearlin & Schooler, 1978; Pearlin et al., 1981; Shin, 1993). In other words, simply having many people around you with whom you interact frequently may not necessarily be supporting. In social support literature, the effects of perceived social support have been most frequently examined. Perceived social support refers to cognitive appraisals of availability and adequacy of support from social others (Holahan & Moos, 1981; Procidano & Heller, 1983; Thoits, 1995). The essential function of perceived social support is that the subjective appraisal and expectations of support lead an individual “to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations” (Cobb, 1976, p. 300).

Literature indicates clear evidence that perceived social support is an important predictor of depression as well as a buffer of depression in response to life events and chronic strains (Aneshensel & Stone, 1982; Barrera, Sandler, & Ramsay, 1981; Cheng, 1997; Gottlieb, 1981; Jackson, 1992; Procidano & Heller, 1983; Thoits, 1995; Turner & Noh, 1983; Vaux et al., 1986). For example, Dean, Lin, and Ensel (1981) related low

perceived support directly to depression. Moreover, Cheng's (1998) study on the effects of different types of social support on depression among adolescents revealed that perceived support is related to a reduction of subsequent depression for both male and female adolescents. In addition, Sherbourne et al. (1995) found in their study with 604 depressed outpatients that the perceived availability of social support appeared to serve a protective function for depressed patients. Similarly, Choi (1997) found that perceived social support mediated the relationship between acculturative stress and depression in Korean American families.

Moreover, Lieberman (1982) argued that an individual's perception of having a reliable and accessible social network is more important in reducing stress-related depression than whether or not the network is actually used. Similarly, many researchers claimed that perceived support has a stronger relationship to depression than does the actual amount of supportive behaviors or the number of supporters (Barrera, 1981; Cheng, 1997; House, 1981; Procidano & Heller, 1983; Vaux et al., 1986; Wethington & Kessler, 1986; Wilcox, 1981). Furthermore, perceived support has also been found to predict the frequency of actual supportive interactions (Lara, Leader, & Klein, 1997). For example, Bruhn and Philips (1984) stated that a person must perceive support to be available before the support itself can become beneficial. Therefore, social support "is likely to be effective only to the extent it is perceived" (House, 1981, p. 27).

5.5. Social Support and Coping

Some investigators have proposed that an important aspect of social support is its influence on the coping strategies under stress (Folkman & Lazarus, 1985; McColl, Lei, & Skinner, 1995; Thoits, 1986). For example, Lazarus and Folkman (1984) argued that social support is the resources an individual draws on in order to cope and that social support precedes and influences coping. In addition, Holahan and Moos (1987) indicated that individuals with more personal and social resources were more likely to rely on approach coping and less likely to use avoidance coping. On the other hand, negative aspects of social relationships were strongly related to both depression and less adaptive coping, just as positive aspects of relationships were related to better psychological adjustment and more adaptive coping (Holahan & Moos, 1986, 1987; Holahan, et al., 1997). Whereas ongoing social support enhances coping efforts, ongoing social stressors erode coping efforts (Holahan et al., 1997).

6. PERSONAL RESOURCES: MASTERY AND SELF-ESTEEM

Two personal resources, mastery over life (or a sense of control) and self-esteem, are most frequently studied in stress and depression research. Feelings of mastery (Pearlin et al., 1981) and high self-esteem (Krause, 1987) have been found to have favorable effects on depression in stressful circumstances (Lu & Wu, 1998; Penninx et al., 1997; Thoits, 1994). These resources are reported to influence an individual's choice and the efficacy of the coping strategies and help-seeking behaviors in response to stressors (Lazarus & Folkman, 1984; Penninx et al., 1997; Thoits, 1994).

6.1. Conceptualization of Mastery

Pearlin and Schooler (cited in Turner & Llyod, 1999) indicate that “mastery concerns the extent to which one regards one’s life-chances as being under one’s own control in contrast to being fatalistically ruled” (p.377). It is assumed that individuals’ appraisal of an event is determined by the perception of ability to manage or adapt to the situation. Similarly, Kobasa et al. (1981) presented the concept of hardiness and indicated that hardy people see crises as challenges and perceive themselves as in control. Stress research identifies that a high sense of control promotes effective coping and bolsters resilience to stressors (Pearlin, 1999), whereas low control implies a sense of powerlessness and a belief that life changes are ruled by fate (Mirowsky & Ross, 1992).

6.2. Effects of Mastery

An impressive number of studies show that mastery over life directly reduces psychological disturbance and buffers the deleterious effects of stress exposure on mental health (Turner & Rozwell, 1994; Kessler, Turner & House, 1988; Rosenfield, 1989; Turner & Noh, 1983, 1988). According to Mirowsky and Ross (1989), a sense of control reduces depression because it encourages active problem solving, while powerlessness is both demoralizing in itself and decreases effective coping.

For example, Hobfoll and Walfisch’s (1986) investigation on the effects of mastery in the relationship between stressful life events and depression among Israeli women found a direct, but not an interactive, effect. They claimed that stressful life events and mastery make separate contributions to depression in a way that stressful

events increase depression more for low mastery women than high mastery women (Hobfoll & Walfisch, 1986). The finding that stressful life events are more likely to push low mastery than high mastery people over a critical level of depression is important in analysis of clinical depression.

More recently, Jang, Haley, Small, and Mortimer (2002) assessed the impact of mastery on depression in later life and found both direct and buffering effects in predicting depression. Also, individuals who had a greater level of mastery were less likely to experience depression even in stressful situations (Jang et al., 2002). In addition, individuals with high mastery are more likely to use problem-focused coping when they are faced with stressful encounters (Jang et al., 2002).

6.3. Conceptualization of Self-Esteem

Self-esteem is a popular construct in psychological well-being. The most widely cited definition of self-esteem is Rosenberg's favorable or unfavorable attitude toward the self. Rosenberg (1965) defines self-esteem as "the evaluation which the individual makes and customarily maintains with regard to himself or herself: it expresses an attitude of approval or disapproval toward oneself" (p.5). Blascovich and Tomaka (1991) define self-esteem as an individual's sense of value or worth, or the extent to which a person values or likes him or herself. Self-esteem is generally considered the evaluative component of self-concept, a broader representation of the self that includes cognitive and behavioral aspects as well as evaluative or affective ones (Blascovich & Tomaka, 1991).

6.4. Effects of Self-Esteem

According to Turner and Rozwell (1994), self-esteem significantly reduces psychological symptoms, especially depression, and buffers the emotional consequences of stressors as well. Self-esteem has been noted to play an important role in the etiology, maintenance, and recovery from depression (Brown et al., 1990a; Fennell, 2004). A number of researchers have reported that low self-esteem predicts the onset of depression (Andrews & Brown, 1993; Brown, Andrews, Harris, Adler, & Bridge, 1986; Brown et al., 1990a; Brown, Bifulco, Veiel, & Andrews, 1990b; Brown & Harris, 1978; Lewinsohn, Hoberman, & Rosenbaum, 1988; Lu & Wu, 1998; Pearlin & Lieberman, 1979; Rosenberg, 1985). The strong negative relationship between self-esteem and depression may be bidirectional in that individuals with low self-esteem tend to be more prone to depression and being in a depressed state may sustain individuals' low sense of self-worth (Cheng & Furnham, 2003).

In addition, research has suggested that low self-esteem renders a vulnerability factor in the presence of stressors (Brown, Andrews, Harris, Adler, & Bridge, 1986). For example, such vulnerability factors as low intimacy with one's husband increased the risk of depression once a severely threatening life event had occurred (Brown et al., 1990a). Moreover, some researchers view low self-esteem as one of the depressive symptoms (Ingham, Kreitman, Miller, Sasidharan, 1986), whereas others view low self-esteem as an antecedent to depression (Brown et al., 1986). For instance, a 10-year longitudinal study found that 60% of the variance in negative psychological outcomes including depression

could be attributed to a common factor that is strongly correlated with low self-esteem (Ormel & Schaufeli, 1989).

7. RELIGION

7.1. Conceptualization of Religion

Religion refers to the search for significance in ways related to the sacred (Pargament, 1997). This is the substance of religion, which is the dimension that separates religion from other human phenomena (Pargament, 1997). There has been growing interest in religious and spiritual themes in psychological and social sciences (Elliason et al., 2005; Ellison & Levin, 1998; Koenig et al., 2001; Krause et al., 1999; Holland et al., 1998; Pargament, 1997). It is reported that people rely heavily on religious and spiritual beliefs in coping with life-threatening illness (Holland et al., 1998). However, a majority of studies on stress and coping often fail to include the construct of religion (Holland et al., 1998). For example, Larson, Pattison, Blazer, Omran, & Kaplan (1986) found that religious variables were included in only 2.7% of socio-behavioral studies conducted from 1978 to 1984, which did not correctly reflect the growing interest in religion.

7.2. Effects of Religion

Research has consistently suggested that religious commitment and practice can be beneficial to physical and psychological well-being, including depression

(Commerford & Reznikoff, 1996; Ellison, 1991; Ellison & Levin, 1998; Koenig, McCullough, & Larson, 2001; Krause et al., 1999; Smith, McCullough, & Poll, 2003). It is reported that the benefits of religiosity for mental health have been associated with the stress buffering and social support aspects of religious involvement (Cornwall, 1987; Eliassen, Taylor, & Lloyd, 2005; Ellison & Levin, 1998; Krause et al., 1999). Stress-buffering effects come from religious ideology that provides a sense of existential certainty which protects individuals against stressful life events. Furthermore, the mental health benefits of religion result from social integration and social support through participation in a religious community (Cornwall, 1987; Eliassen, et al., 2005; Ellison, 1991; Ellison & Levin, 1998; Holland et al., 1998; Idler, 1987; Peterson & Roy, 1985).

Ellison's (1991) study found direct and substantial effects of religious certainty on subjective well-being. Specifically, individuals with strong religious faith reported higher levels of life satisfaction, greater personal happiness, and fewer negative psychosocial consequences of traumatic life events (Ellison, 1991). In addition, Veroff, Douvan, and Kulka (1981) and Mattlin et al. (1990) noted the value of religion in terms of coping when faced with illness and death. For example, Veroff et al. (1981) found that prayer significantly reduces stress-related depression and claimed that people can overcome feelings of helplessness and depression once they believe that their life is in God's plan. Similarly, McCrae and Costa (1986) rated faith as the single most effective coping strategy in dealing with loss.

Eliassen et al. (2005) found an inverse U-shaped curvilinear relationship between religiosity and depression, with moderately religious respondents reporting the highest

levels of depressive symptoms. This finding is consistent with Ross's (1990) in that persons strong in their belief or nonbelief are better off psychologically than those who are uncertain in their religious commitment. An alternative explanation is that persons whose lives are somehow in conflict with religious values may be at increased risk of depression (Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998). Eliassen et al.'s (2005) findings suggested that the links between religiosity and depression may be more complex than previously proposed. Moreover, it is suggested that findings have been inconsistent and vary according to the aspects of religiousness that are measured and the populations studied (Eliassen et al., 2005).

8. CONCEPTUAL FRAMEWORK

During last two decades research on psychological well-being has broadened (Coyne & Downey, 1991; Kessler et al., 1985; Lazarus, 1993b; Pearlin, 1989, 1999; Turner & Rozwell, 1994). Literature indicates that depression is the most common form of psychological distress that is experienced by everyone to some degree at some time (Avison & Turner, 1988; Billings & Moos, 1982; Choenarom et al., 2005; Dean & Ensel, 1983; Kessler, 1997; Pearlin & Johnson, 1977; Sherbourne et al., 1995). Research on Korean immigrants has consistently shown a high rate of depression (Kuo, 1984; Kuo & Tsai, 1986; Hurh & Kim, 1988, 1990a). As stress models have become the focus of depression research (Folkman & Lazarus, 1986; Kessler, 1997; Kessler et al., 1985; Lazarus, 1993b; Pearlin, 1989, 1999; Thoits, 1983, 1995), a growing number of researchers have found that not all individuals are equally vulnerable to stressors

(Conner-Smith & Compass, 2002; Holahan et al., 1997). Resilience or resistance perspective has become popular and more researchers have been interested in the individual's adjustment ability to cope with stressful situations (Gomez & McLaren, 2006; Lightsey, 2006). Therefore, stress researchers have shifted the perspective from an emphasis on pathology to an interest in adaptive processes and outcomes (Holahan & Moos, 1986; Holahan et al., 1997; Kobasa, 1982).

Central to this new direction in empirical research is a growing interest in stress-resistance or stress-mediating factors (Holahan & Moos, 1986; Holahan et al., 1997; Lazarus, 1993a; Laarus & Folkman, 1984; Johnson & Saranson, 1979; Kobasa, 1982). Whereas traditional stress researchers consider stressors as causal factors in pathology, stress-resistance researchers emphasize people's capacity to stay healthy when stressors occur (Holahan & Moos, 1986; Holahan et al., 1997; Johnson & Saranson, 1979; Kessler, 1997; Kessler, et al., 1985). Stress-resistance researchers have focused on the adaptive value of certain resistance factors during periods of stress: effective coping strategies (Boldger, 1990; Conner-Smith & Compass, 2002; Endler & Parker, 1990a; Falkman, 1992; Holahan & Moos, 1986; Lazarus, 1993a, b; Lazarus & Folkman, 1984), social support (Cohen & Willis, 1985; Choenarom et al., 2005; Dean et al., 1990; Kessler, 1997; Kessler et al., 1985; Pennix et al., 1997; Sherbourne et al., 1995; Thoits, 1985, 1995), personal resources (Andrews & Brown, 1993; Brown et al., 1990a, b; Fennell, 2004; Jang et al., 2002; Kessler et al., 1988; Kobasa, Maddi, & Kahn, 1982; Lu & Wu, 1998; Mirowsky & Ross, 1989; Turner & Llyod, 1999; Turner & Rozwell, 1994), and religious

beliefs (Eliassen et al., 2005; Ellison & Levin, 1998; Koenig et al., 2001; Krause et al., 1999; Holland et al., 1998; Pargament, 1997).

Based on the review of the literature and empirical findings, the hypothesized conceptual framework of the current study is presented in Figure 2.1. The proposed model describes the stress and depression model with six latent variables and related mediating variables. It presents the direct relationship between stressors and depression as well as the indirect relationship between stressors and depression through its association with mediating variables, including social coping, social support, personal resources, and religiosity. Moreover, relationships among the mediating variables are described.

Considering the significant roles of mediating variables in the relationship between stressors and depression and the lack of a research-based paradigm that specifies the pattern of psychological correlates among the immigrant population, this study attempted to add to the current body of research by investigating a multivariate model of stress and coping for Korean populations in the United States. Specifically, this study addressed the following research questions:

1. What is the relationship between stressors and depression among Korean immigrants?
2. Are the effects of stressors on depression significant after taking into account such mediating variables as coping strategies, social support, personal resources, and religiosity?

As shown in Figure 2.1, the conceptual model delineates the six latent variables (represented in ovals) and their observed variables (represented in boxes). For example, the stressors latent variable was measured by life events (L_E), perceived stress (P_S) and the five major areas of acculturation stress, which are social isolation (isolation), socioeconomic adjustment (SEA), sense of marginality (marginality), concerns with family relations (family), and language barrier (English). Therefore, the latent stressor variable is measured by the seven indicator variables.

Social support was measured by the perceived social support which measures three areas: perceived social support from family (PSS_fam), perceived social support from friends (PSS_fri), and perceived social support from significant others (PSS_sig). In addition, task coping is a single factor indicator measured by task-oriented coping (T_O). And, the emotion and avoidance coping factor was measured by two indicators, emotion-oriented coping (E_O) and avoidance-oriented coping (A_O). The religiosity factor measured two areas of belief system: religious beliefs and practice (Re_bp) and religious social support (Re_ss). And the personal resources factor was measured by two observed variables: mastery and self-esteem. Finally, depression is a single indicator factor measured by the CES-D scale.

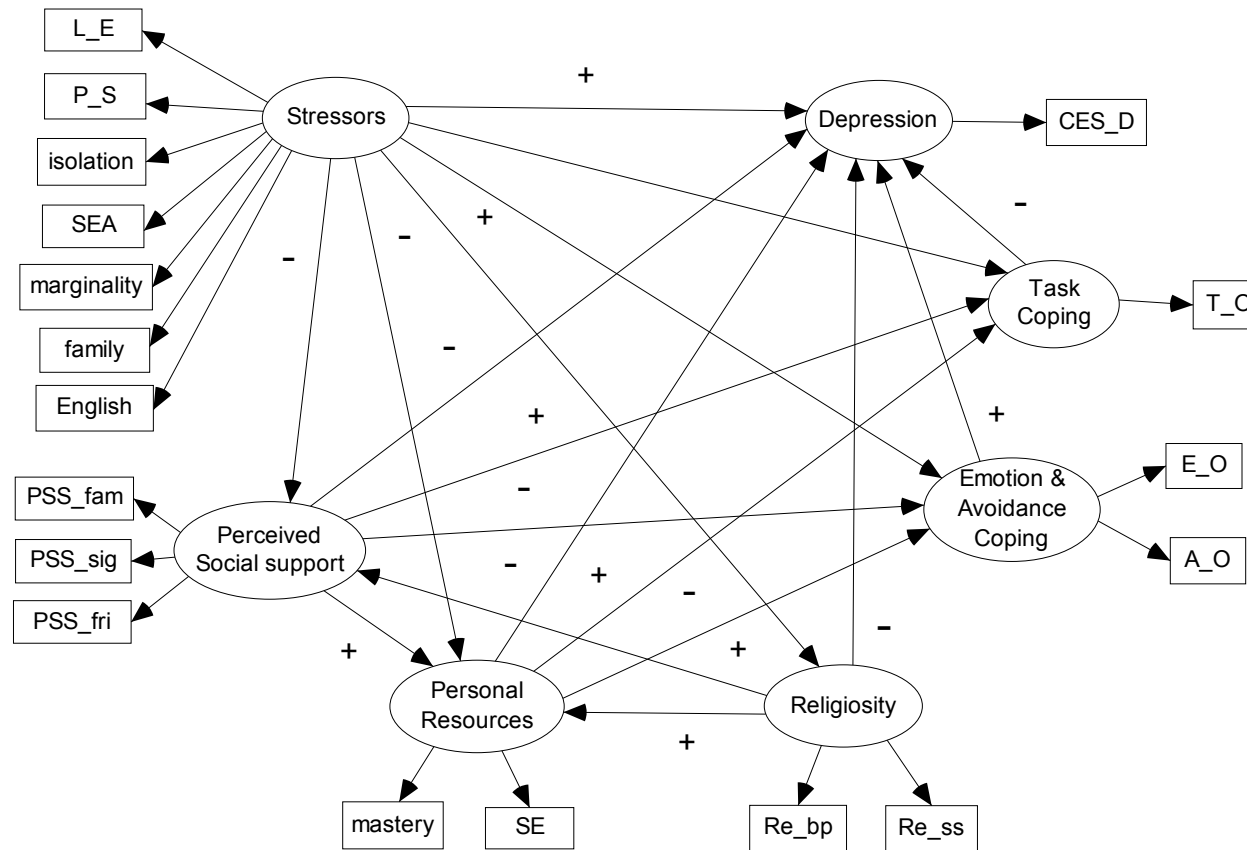


Figure 2.1 Hypothesized Conceptual Model.

CHAPTER III

METHODOLOGY

This chapter describes the methodology of this study. The study hypotheses are presented in the first section. These hypotheses are concerned with testing the direct and indirect relationship between stressors and depression as well as the relationships among the mediating variables. Selecting the study sample, data collection methods, and research design are discussed in the following section. Lastly, instruments used to measure the observed variables are described.

1. RESEARCH QUESTIONS

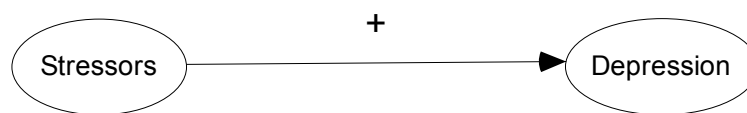
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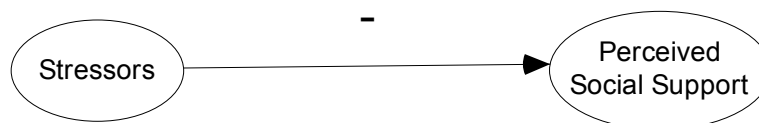
2. HYPOTHESES

The following 17 hypotheses are tested in the present study.

Hypothesis 1: Stressors has a positive direct effect on depression.



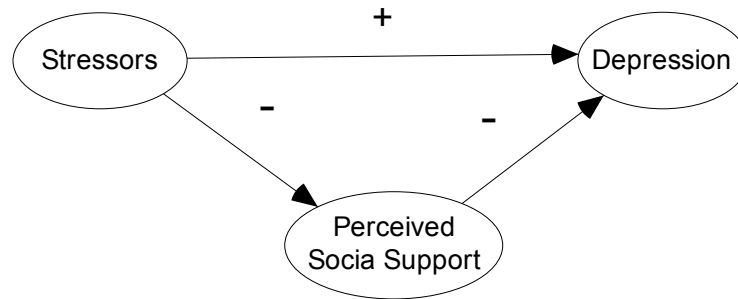
Hypothesis 2: Stressors has a negative direct effect on perceived social support.



Hypothesis 3: Perceived social support has a negative direct effect on depression.



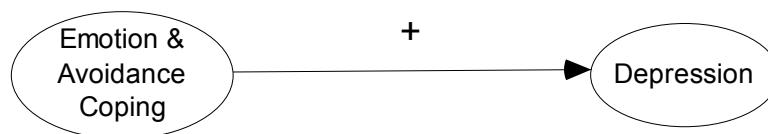
Hypothesis 4: The relationship between stressors and depression is mediated by perceived social support through its positive association with stressors and negative association with depression.



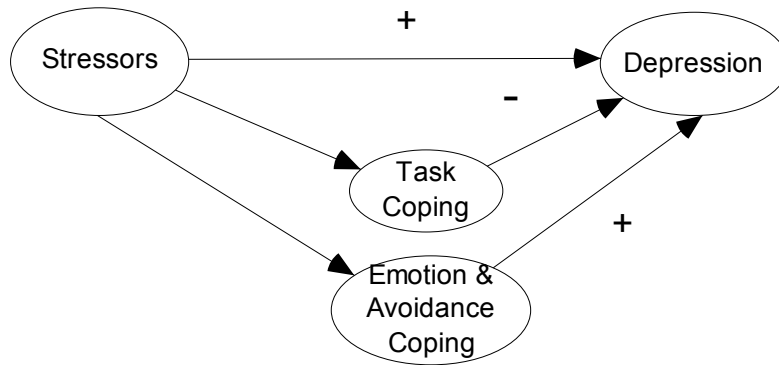
Hypothesis 5: Task coping has a negative direct effect on depression.



Hypothesis 6: Emotion and avoidance coping has a positive direct effect on depression.



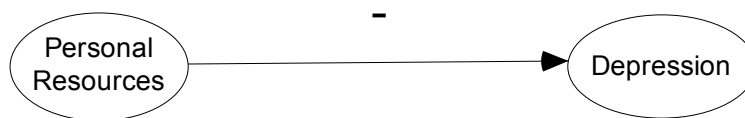
Hypothesis 7: The relationship between stressors and depression is mediated by coping.



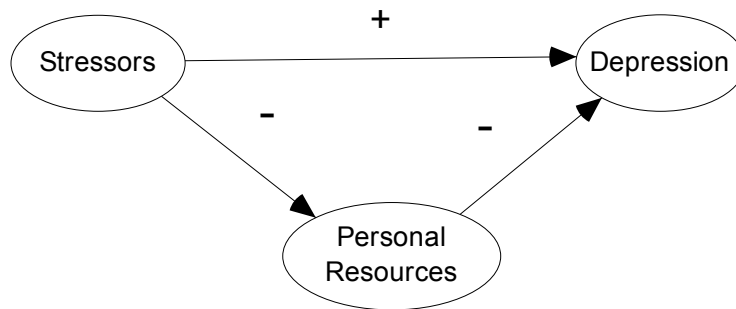
Hypothesis 7-1: The relationship between stressors and depression is mediated by task coping through its negative association with depression.

Hypothesis 7-2: The relationship between stressors and depression is mediated by emotion and avoidance coping through its positive association with depression.

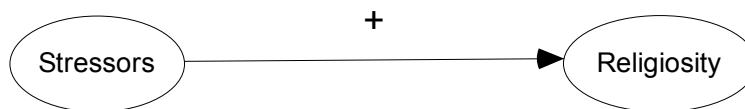
Hypothesis 8: Personal resources have a negative direct effect on depression.



Hypothesis 9: The relationship between stressors and depression is mediated by personal resources through its negative associations with both stressors and depression.



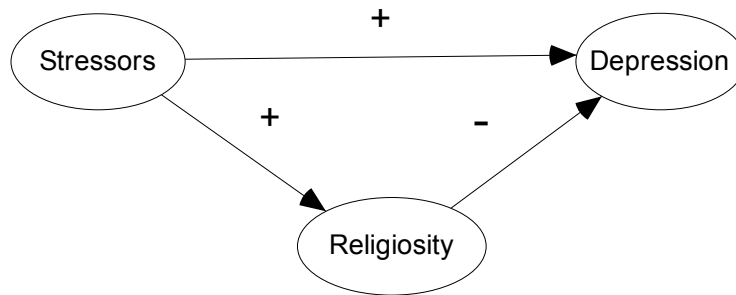
Hypothesis 10: Stressors has a positive direct effect on religiosity.



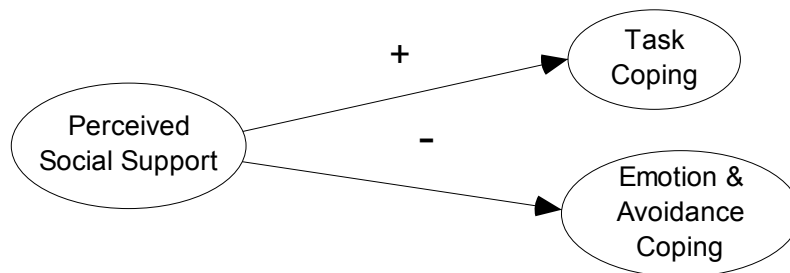
Hypothesis 11: Religiosity has a negative direct effect on depression.



Hypothesis 12: The relationship between stressors and depression is mediated by religiosity through its positive association with stressors and negative association with depression.



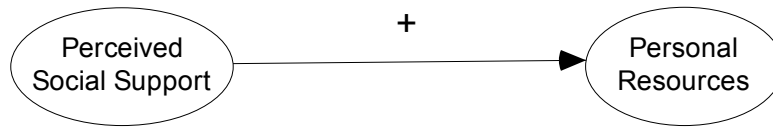
Hypothesis 13: Perceived social support has a direct effect on coping.



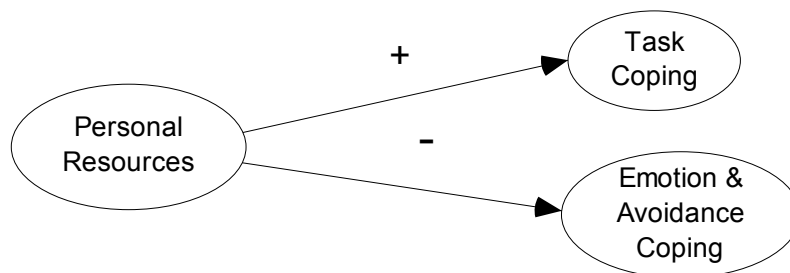
Hypothesis 13-1: Perceived social support has a positive direct effect on task coping.

Hypothesis 13-2: Perceived social support has a negative direct effect on emotion and avoidance coping.

Hypothesis 14: Perceived social support has a positive direct effect on personal resources.



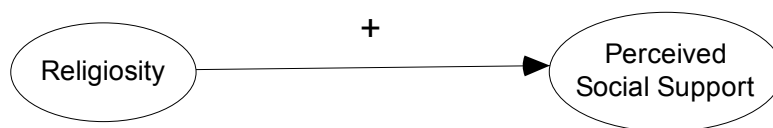
Hypothesis 15: Personal resources have a direct effect on coping.



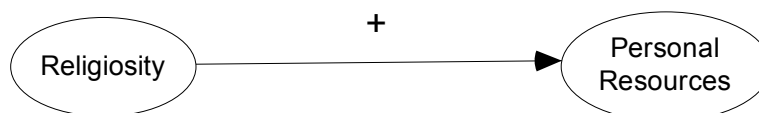
Hypothesis 15-1: Personal resources have a positive direct effect on task coping.

Hypothesis 15-2: Personal resources have a negative direct effect on emotion and avoidance coping.

Hypothesis 16: Religiosity has a positive direct effect on perceived social support.



Hypothesis 17: Religiosity has a positive direct effect on personal resources.



3. SAMPLE

The sample of this study consisted of adult Korean immigrants in Austin, Texas. Since the literature has shown that those who immigrated before the age of 16 are substantially different from older adult immigrants in terms of the adjustment experiences (Noh & Avison, 1996), this study included only those who migrated to the United States at the age of 16 or older.

This study used a nonprobability sampling procedure that relies on available subjects. Since the possible sampling frames on Koreans are not available, it is not feasible to select a probability sample. While nonprobability convenience sampling was used to assure adequate sample size, caution was exercised in generalizing the findings to a larger population.

First, Korean ethnic churches were used as the main resources to obtain subjects for the study. For the church that the investigator attends, she contacted her friends and the cell group leaders, explained to them the purpose of the study, asked them first to participate in the study, and asked their cooperation to locate more potential subjects. For the churches that the friends of the investigator attend, she contacted her friends, informed them of the purpose of the study, asked them first to participate in the study, and asked their cooperation to locate more potential subjects. For the churches that the investigator has no connection, the investigator first contacted the pastors of the churches, explained the purpose of the study, and asked their cooperation to locate the cell group leaders in the churches in order to distribute the questionnaires in the weekly cell group meetings.

Second, participants were also recruited through Austin Korean School. The investigator first contacted the principal and the director of the school, explained to them the purpose of the study, and asked their cooperation in locating the teachers in the school in order to distribute the questionnaires to the parents of the students.

Third, many of the male participants were recruited through Samsung Austin Semiconductor (SAS), which is a leading Korean electronics company in Austin, Texas. The investigator first contacted her friends who work for SAS, informed them of the purpose of the study, asked them to participate in the study, and asked their cooperation to locate more potential subjects in SAS.

The three resources for recruiting study subjects, which are Korean ethnic churches, Austin Korean School, and Samsung Austin Semiconductor (SAS), are not mutually exclusive. For example, many parents recruited through Austin Korean School were attending Korean ethnic churches in Austin. Also, many participants recruited through Samsung Austin Semiconductor were attending one of the Korean ethnic churches in the Austin area. While the subjects were contacted through multiple revenues, it was ensured that no subject completed the survey more than one time.

4. DATA COLLECTION

Data was collected through a survey questionnaire which takes about 30-40 minutes to complete. A cover letter was included with the questionnaire that explained the purpose of the survey, voluntary participation, anonymity of the response, and the amount of time it should take to complete. In addition to the cover letter, a script was

developed in order to maintain consistency in terms of what was presented about the study across to the different groups. The investigator wrote out a standard script about the information that is covered, such as the purpose and the importance of the study, voluntary participation, anonymity, the purpose of the depression scale, and possible resources for the professional mental health needs. In presenting to each group, the investigator followed the script, not by reading it, but by practicing it several times, so that she could say exactly the same information to the different groups. An additional value of the script was that it helped the investigator to maintain the flow while reducing the chance of missing any major information.

Group administration was prioritized when the researcher was able to locate groups. Seven groups through Korean ethnic churches, one group through Austin Korean School, and two groups through Samsung Austin Semiconductor were located. In these group meetings, the investigator discussed the purpose of the study, informed consent, anonymity, and answered the questions that the participants had. The potential participants were informed about the study and voluntarily agreed to participate. They were told that they could withdraw from the study at any time.

In addition, the participants were notified that the study focuses on general depressive symptoms experienced by Korean immigrants in the general population, not on specific clinical symptoms of depression. They were also informed that The Center for Epidemiologic Studies Depression Scale (CES-D) used in this study is designed to assess depressive symptoms in community samples, not in clinical samples. No participant

asked that a list of mental health resources be prepared for them to consult professional help later.

Prior to group administration, the researcher again informed the participants of the purpose of the study and obtained informed consent for participation. Then the investigator placed a manila envelope in the room and asked the participants to seal their completed surveys before they put them in the envelope.

Frequently, some of the potential participants in the group wanted to participate in the study, but preferred completing the questionnaires at home instead of in a group. In this case, the researcher informed them of the purpose of the study and obtained informed consent for participation. Then the questionnaires were given to them with a self-sealing envelope. In these cases, the surveys were picked up by the investigator. The investigator has carried in her car a box with only a thin hole on the top through which the subjects put their sealed surveys. The completed surveys were saved in a locked cabinet with their envelopes sealed. With every 50 surveys collected, the investigator opened the sealed surveys and destroyed the envelopes.

Neither the questionnaire nor the envelope carry any identification of the respondents and completed surveys were put either in a large manila envelope or in a box, and kept in a locked file cabinet. Whether the questionnaires were administered to a group or to an individual participant, informed consent for participation was obtained prior to the administration. The obtained informed consent forms were collected in a separate manila envelope from the completed surveys and kept in a locked file cabinet.

5. INSTRUMENTS

The following standard instruments were included in the survey to measure the exogenous and endogenous variables of the study.

5.1. Depression

Depression was included as an endogenous variable in this study. Depression was measured by the Korean version of Center for Epidemiological Studies Depression (CES-D) Scale. The original CES-D was first developed by Radloff (1977) to measure depressive symptoms in the general population and is now one of the most widely used measures. The 20 items on the scale were originally selected from several earlier depression measures, including Beck Depression Inventory, Minnesota Multiphasic Personality Inventory, and Zung Self-Rating Depressive Scale, based on validity, discriminatory power, and representation of the factors in depressive symptoms (Radloff & Rae, 1981).

The CES-D is a 20-item self-report measure of the frequency of symptoms experienced during the past week. Responses are scored on a 4-point scale for each item: 0 = rarely or none of the time (less than 1 day), 1 = some or a little of the time (1-2 days), 2 = occasionally or a moderate amount of time (3-4 days), and 3 = most or all of the time (5-7 days). Responses to the four positive affect items are reverse-coded and scores on the CES-D range from 0 to 60, with higher scores indicating more severe depression.

High internal consistency and construct validity as well as good concurrent validity were found in different demographic subgroups (Radloff, 1977). The CES-D has

been reported to have high internal consistency ($\alpha = .85$ for general population and $\alpha = .90$ for psychiatric population), good split-half reliability (coefficients ranging from .77 to .92), and adequate test-retest reliability (coefficients ranging from .32 to .54) (Radloff, 1977). Also, there is evidence for good concurrent and known-groups validity of the CES-D (Radloff, 1977).

The Korean version of CES-D (CES-D-K) was first translated by Noh, Avison, and Kaspar (1992). This Korean version of the CES-D is known for its adequacy for the Korean population and has been used in the majority of depression studies on the Korean population. However, further analysis of the responses to CES-D-K have shown that the Korean population has scored 3-4 times higher on the four reverse-coded positive affect items, which has never been found in North American populations (Noh et al., 1992). It was recommended that the 4 positive affect items be deleted when assessing depression in Korean people (Noh et al., 1992).

More recently, Noh, Kaspar, and Chen (1998) reassessed this previous recommendation and compared the three alternate forms of measures: the original CES-D-K-20 (the original 20-item measure), the CES-D-K-16 version (the 16-item measure after deleting four positive affect items), and the CES-D-K-R (revised 20-item measure in which four positive affect items were rephrased in negative terms). The comparison of psychometric properties of the three measures revealed that the revised 20-item CES-D-K has the highest reliability and validity. Although the internal consistency for all three measures is fairly high, the revised CES-D-K has the highest alpha (.89 for CES-D-K-20, .90 for CES-D-K-16, and .93 for CES-D-K-R) (Noh et al., 1998). They also reported

that criterion and convergent validity is the highest with the revised form of CES-D (CES-D-K-R). Based on this review, the 20-item revised form of CES-D (CES-D-K-R) is chosen for this study.

5.2. Stressors

Stressors were included as an exogenous variable with three measured variables: life events, acculturative chronic strains, and perceived stress. Three separate measures were used for this study.

5.2.1. Life Events

Life events were measured by the Life Experiences Survey (LES). The LES was first developed by Saranson, Johnson, and Siegel (1978) to measure life changes and their impact. It was designed to eliminate certain shortcomings of the previous life stress measure, the Schedule of Recent Experiences (SRE) by Holmes and Rahe (1967) (Beehr, 1983; Pretorius, 1998). In fact, many items of the LES are based on the SRE and thirty-four items of the LES are similar to those of the SRE. Although the SRE is by far the most widely used instrument in life stress research, one of its major weaknesses is the assumption that life events by themselves are stressful whether they are experienced as desirable or undesirable. As a matter of fact, events can vary in terms of desirability. In addition, what is desirable for one person (e.g., expected, wanted pregnancy) may not be desirable for another (e.g., unexpected pregnancy for unwed teenager). Both theoretically and empirically, it is well established that only stressors that are subjectively rated as

negative or undesirable have negative psychological consequences (Brown, 1974, Lazarus & Folkman, 1984; Thoits, 1989; Saranson, De Monchaux, & Hunt, 1975; Saranson et al., 1978). Therefore, it seems reasonable to conceptualize life stress primarily in terms of negatively rated life events.

The LES is a 57-item self-report measure that allows for separate assessment of positive and negative life experiences as well as individualized ratings of the impact of events. It incorporates two sections: section 1 consists of 47 items of life changes which are common in diverse situations, and section 2 consists of 10 items of life changes which can be experienced in academic situations specifically. Section 1 is known to be appropriate for general populations, whereas section 2 is known to be more relevant for students.

Ratings of the impact of events are on a 7-point scale: (-3) extremely negative, (-2) moderately negative, (-1) somewhat negative, (0) no impact, (+1) slightly positive, (+2) moderately positive, and (+3) extremely positive. Summing the ratings of the positive items provides a positive life event score, and summing the negative items yields a negative life event score. A total life event score is obtained by adding these two values. Pretorius and Diedricks (1994), in their study with a South African sample, used the negative life event score as the measure of life stress in concordance with Saranson et al.'s (1978) claim that total negative events is the best predictor of psychological disorder. In this study, therefore, the negative life event score will be used as the indicator of life stress.

Two test-retest reliability studies were conducted with a 5-6 week interval, with 34 and 58 subjects each from undergraduate psychology courses. The test-retest reliability coefficients for the positive life event score were .19 and .53, the reliability coefficients for the negative life event score were .56 and .88, and the coefficients for the total change score were .63 and .64. Validity is reported adequate since the relationship between the negative life change score and many stress-related measures is significant. As Pretorius (1998) recently claimed the superiority of the LES over the SRE with South African Sample, the LES is a useful tool for life stress researchers.

For this study, the following revisions were made. First, the 47 items in section 1 of LES were shortened to 44 items by combining male only and female only questions. For example, the two separate questions, “Male: Wife/girlfriend’s pregnancy” and “Female: Pregnancy”, were combined into one question: “Pregnancy or wife/girlfriend’s pregnancy”. Second, the multiple response categories were collapsed into one category. For example, the seven response categories of the question, “Death of close family member: a) mother, b) brother, c) sister, d) grandmother, e) grandfather, f) other (specify)”, were collapsed into one: “Death of close family member: mother, father, brother, sister, grandmother, grandfather, and other”. Third, the 7 rating options of the impacts of events were formed into a 5-point format for the sake of simplicity: (-2) very negative, (-1) somewhat negative, (0) no impact, (+1) somewhat positive, and (+2) very positive. In addition, the two options for the recentness of the events (“0 to 6 months” and “7 to 12months”) were combined into one as “in the past 12 months”. A similar

simplifying procedure was previously conducted by Beehr (1983) and was found not to cause any contamination of the adequacy.

5.2.2. Acculturative Chronic Strains

Chronic strains will be measured by the Acculturative Stress Index (ASI). The ASI was first developed by Noh and Avison (1996) for the Korean Mental Health Study (KMHS), which was a two-wave panel study of life strains and mental health in Toronto, Canada. Respondents are asked how often they feel stress resulting from adaptation difficulties in the following areas: social isolation, sense of marginality, difficulties in socioeconomic adjustment, difficulties in family relations and concerns with children, and language barrier (Noh & Kaspar, 2003; Noh, Kaspar & Chen, 1998).

The ASI is a 31-item self-report measure to assess the degree to which subjects perceive their current life experiences as stressful in the process of resettlement in a new country. The length of time that the respondents experienced these difficulties was not specified for this measure, for chronic difficulties may persist over long periods of time (Noh & Avison, 1996). Responses were scored on a 4-point scale ranging from “never” (0) to “very often” (4). High internal consistency reliability was reported ($\alpha = .91$).

For this study, five main areas of the ASI were included as the indicators of the stressors latent variable: social isolation, sense of marginality, socioeconomic adjustment, difficulties in family relations, and language barrier.

5.2.3. Perceived Stress

The Perceived Stress Scale (PSS) was initially developed by Cohen, Kamarck, and Mermelstein (1983) to measure the extent to which respondent's life is appraised as stressful (Cohen et al., 1983). The PSS is an empirically based measure for the community sample to evaluate "the degree to which respondents find their lives unpredictable, uncontrollable, and overloading" (Cohen, 1986, p.717). In their original work, Cohen et al. (1983) claimed that the PSS was a better predictor of nonspecific appraised stress than other objective life event scores.

The 14-item self-report PSS was first designed to ask the frequency of specific feelings and thoughts that they experienced during the last month. Responses are scored on a 5-point scale: (0) never, (1) almost never, (2) sometimes, (3) fairly often, and (4) very often. Seven items that are positively stated are reverse-coded before summing to obtain the total score. Reliability and validity were tested based on a two-wave study with college students (332 in sample I and 114 in sample II) and reliability coefficients were reported to range from .84 to .86. Substantial validity is also reported (Cohen et al., 1983).

Following the original 14-item PSS, 10-item and 4-item versions were also developed, and the 10-item version (PSS-10) is recommended the most (Cohen & Williamson, 1988). Therefore, the PSS-10 (10-item version of Perceived Stress Scale) was used in this study. Scores of PSS-10 were obtained by summing across all 10 items after reverse-coding the four positive items. Reliability of the PSS-10 was reported to be .78.

5.3. Social Support

Social support was measured by the Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS was developed by Zimet, Dahlem, Zimet and Farley (1988) based on the research findings that perceived social support as a better predictor of psychological status than objective dimensions of social support (e.g., network size or embeddedness) (Barrera, 1981, 1988; Saranson, Saranson, Hacker, & Basham, 1985; House, Umberson, & Landis, 1988; Schaefer et al., 1981; Wilcox, 1981). It is a 12-item self-report inventory to measure perceived adequacy of social support from family, friends, and significant others. Responses are scored on a 7-point scale ranging from (1) very strongly disagree to (7) very strongly agree. For this proposed study, the 7 response categories were formed into a 5-point format for the consistency of the response set, ranging from (1) strongly disagree to (5) strongly agree.

Reliability and validity were tested with 275 university undergraduates. Adequate internal reliability and test-retest reliability was reported: alpha was .88 and .85, respectively. In addition, strong factorial validity and moderate construct validity was reported (Zimet et al., 1988). Evaluation on the psychometric properties of the MSPSS was further extended across different subject groups: 265 pregnant women, 74 adolescents, 55 pediatric residents (Zimet, Powell, Farley, Werkman, & Berkoff, 1990), and 154 students at an urban college (Dahlem, Zimet, & Walker, 1991). This extended study demonstrated good internal reliability (coefficient alpha ranged from .84 to .92) and adequate validity.

5.4. Coping

Coping was measured by the Coping Inventory for Stressful Situations (CISS). The CISS was developed by Endler and Parker (1990a, 1990b, 1993, 1994) on the basis of sound empirical and rational support to overcome the psychometric problems with many existing coping inventories. The CISS is a 48-item multidimensional inventory to measure three basic coping styles: task-oriented, emotion-oriented, and avoidance-oriented coping. It is a useful self-report measure to assess an individual's coping style in stressful situations. Respondents are asked how often they engage in various activities when they encounter difficult and stressful situations. Responses are scored on a 5-point scale ranging from (1) not at all to (5) very much. The total score is obtained by summing each item score.

Psychometric properties were evaluated across various different groups: two college student samples, two normal adult samples, two adolescent samples, and one psychiatric sample (Endler & Parker, 1994). These seven separate samples yielded identical three factor structures. This extended investigation provides very consistent empirical support for the CISS, unlike many other coping measures including the Ways of Coping Questionnaire (WCQ; Folkamn & Lazarus, 1988), which is the most widely used inventory (Parker, Endler, & Bagcy, 1993). Excellent internal reliability was reported with alpha ranging from the high .80s to low .90s, and test-retest reliability with a 6-week ranged from .51 to .73. Also, there is evidence of extensive data for good construct validity (Endler & Parker, 1994). Both adult and adolescent versions are available, and the adult version (CISS – Adult) was used for this study.

5.5. Mastery

Mastery was measured by Pearlin's Mastery Scale (Pearlin & Schooler, 1978), which is the most widely used measure of control in health and social science research. Mastery Scale is a 7-item, self-report measure to assess the degree to which individuals believe that their life is under their control. Respondents are asked to indicate how strongly they agree or disagree with the statements, including, "There is really no way I can solve problems I have", or "I have little control over the things that happen to me". Responses are scored on a 4-point scale ranging from (1) strongly disagree to (4) strongly agree.

Items that are negatively worded are reverse-coded before summing to obtain the total score. Scores range from 7 to 28, with higher scores indicating higher mastery. Although no mastery cut-off point has been established, a score of 21 or less denotes the likelihood that one's life is directed by forces outside their control (Franks & Faux, 1990). Psychometric properties of the Mastery Scale were assessed by many researchers and were reported to be adequate with alpha ranging from .72 to .78 (Franks & Faux, 1990; Hobfoll & Walfisch; 1986; Jang et al., 2002).

5.6. Self-Esteem

Self-esteem was measured by the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), which is the most widely used self-esteem measure in social science. The RSE is a 10-item unidimensional self-report scale to measure global self-esteem. It contains items related to overall feelings of self-worth or self-acceptance. Responses are scored on a 4-

point scale ranging from (3) strongly agree to (0) strongly disagree. Items that are negatively worded are reverse-coded before summing for the total score to be obtained. Scores range from 10 to 40, with higher scores indicating higher self-esteem.

Although the RSE was originally developed to assess self-esteem among adolescents, it was also validated for use with many different groups, including adults, elderly populations, and substance abusers and other clinical groups. Good reliability (with alpha ranging from .74 to .85) and validity was demonstrated across the different samples.

5.7. Religiosity

Religiosity was measured by the revised version of the Systems of Belief Inventory (SBI-15R; Holland et al., 1998). Holland et al. (1998) designed the SBI with an attempt to meet the increasing need for exploration of religious/spiritual beliefs in quality of life, stress and coping research. The SBI was first developed for hospitalized cancer patients to measure religious/spiritual beliefs and practices and social support from the religious community. The original SBI-54 was shortened by deriving 15 items from the original 54-item scale and revised by rephrasing one item to increase the applicability to general populations. The SBI-15R identified the same two factor structure as the original SBI-54, and the correlation between the SBI-15R and the SBI-54 was very high ($r=.98$, $p<0.000$).

The SBI-15R is a 15-item self-report measure that can be used for both healthy and physically ill individuals. Respondents are asked to indicate how strongly they agree

or disagree with the statements, including “Religion is important in my day-to-day life” and “I seek out people in my religious or spiritual community when I need help”. Responses are scored on a 4-point scale ranging from (0) strongly disagree to (3) strongly agree. The SBI-15R demonstrated high reliability, with coefficient alpha of .93. Further, there is evidence of adequate test-retest reliability and convergent, divergent, and discriminant validity (Holland et al., 1998).

5.8. Demographic Variables

In addition to the standard instruments to measure the observed variables, questions asking subjects’ background information, such as gender, age, marital status, employment status, length of U.S. residence, level of education, and monthly household income, were included in the questionnaire. The descriptive analysis examined the distribution and the characteristics of the demographic variables. However, since these variables were not the primary interest of this study, they were not included in the Structural Equation Modeling (SEM) for the main analysis of the study. However, collecting the data made it possible to examine the effects of demographic factors in subsequent analysis.

5.9. Translation of the Instruments

The Center for Epidemiological Studies Depression (CES-D) and the Acculturation Stress Index (ASI) had been previously translated into Korean and were available for use for this study. The other instruments, the Life Experiences Survey (LES),

the Perceived Stress Scale (PSS), the Multidimensional Scale of Perceived Social Support (MSPSS), the Coping Inventory for Stressful Situations (CISS), Pearlin's Mastery Scale, the Rosenberg Self-Esteem Scale, and the Systems of Belief Inventory (SBI-15R), were translated into Korean for the purpose of this study. The investigator first translated the instruments and the translated forms were backtranslated by a bilingual Korean who had no familiarity with the instruments. Both the English version and translated Korean version of the instruments were reviewed by two doctoral students from Linguistics and Foreign Language Education. They examined the conformity of meaning between each item of the English versions of the instruments and its translated version into Korean. Items were modified based on the reviewers' comments. The survey was available both in the English version and Korean version so that the participants could choose for their preference.

CHAPTER IV

DATA ANALYSIS

Data analysis consists of four parts: descriptive analysis of the demographic variables, descriptive analysis of the observed variable, data preparation and screening, and multivariate analysis using Structural Equation Modeling (SEM).

First, descriptive analysis of the demographic variables provides information for the characteristics of the study participants. Descriptive analysis as well as path analysis of the demographic variables supported the proposal that the demographic variables were not included in SEM. Second, preliminary analysis of observed variables using descriptive statistics is presented.

Third, data preparation and screening procedure is discussed. Especially, the following underlying assumptions for SEM were tested using diagnostic statistics: sample size, missing data, outliers, normality, linearity, homoscedasticity, multicollinearity, and scale reliability.

And fourth, as the main analysis, Structural Equation Modeling (SEM) is presented. SEM analysis was performed to test the hypotheses of the study. As an extension of the general linear model (GLM), SEM can be used as a more powerful alternative to multiple regression. Compared to multiple regression, SEM has the following advantages: it enables one to reduce measurement error by having multiple indicators per latent variable; allows to simultaneously estimate multiple dependent

variables as well as mediating variables in a single model; allows to examine the relationships between latent variables and measured variables as well as both direct and indirect effects of one variable on another; and enables to estimate the model overall rather than coefficients individually.

Structural equation models incorporate measurement model and path model. Accordingly, SEM process consists of two steps: validating the measurement model through confirmatory factor analysis and testing the structural model through path analysis with latent variables. In the present study, the measurement model was first evaluated using confirmatory factor analysis and then the structural component of SEM was tested.

In the measurement model of this study, the relationships between the latent variables and their corresponding observed variables were specified (see Figure 4.2 Initial Measurement Model). In addition, the measurement errors of each observed variables were specified. In the structural model, the relationships between the latent variables were specified (see Figure 4.4 Structural Model).

Among many different computer programs for SEM, AMOS 6.0 was used for this study. In SEM graphics, circles or ovals represent latent variables and boxes represent measured variables. Error terms for the measured variables are represented by “e”, and disturbance or residuals for the endogenous variables are represented “d”. Single-headed arrows represent path coefficients and double-headed arrows represent correlations or covariance.

1. PRELIMINARY ANALYSIS

1.1. Characteristics of Demographic Variables

A total of 384 surveys were collected. Four surveys among them were excluded from the initial data entry because the subjects immigrated to the U.S. before the age of 16. Based on the literature that has shown that those who immigrated before the age of 16 have substantially different experiences in terms of their adjustment process (Noh & Avison, 1996; Noh, Kaspar, & Chen, 1998), this study included those who migrated to the U.S. at the age of 16 or older. In addition, six cases were excluded due to their missing 50% or more of the data. The data cleaning allowed a sample size of 374 for analysis.

A summary of characteristics for demographic variables is presented in Table 4.1. The mean age of the 374 participants is 37.1 years ($SD=8.3$), with the majority (75.9%, $n=284$) in the range of 28 to 41 years. The mean age of migration to the U.S. is 28.6 ($SD=6.9$), with the majority (72.2%, $n=270$) between the ages of 23 and 34. The length of residence in the U.S. averages 8.5 years ($SD=7.6$), with 42.5 % for one to five years and 34.5% from six to ten years.

Males (52.4%, $n= 196$) and females (47.6%, $n=178$) are almost equally represented in the sample. The majority of the respondents (78.3%, $n=293$) are married, while 19.6% ($n=73$) of the respondents are single, and 2.1% ($n=8$) are separated, divorced, or widowed. Most of the female respondents (87.1%, $n=155$) and the majority of the male respondents (70.4%, $n=138$) are married. Almost half of the participants (48.1%, $n=180$)

do not have any child under the age of 18 that live with them, and almost another half (47.9%, n=179) currently live with one or two children under the age of 18.

Overall, the sample of this study has a very high level of education. Most of the study subjects have completed college or higher education (88.5%, n=331), while a small proportion (11.5%, n=43) did not receive postsecondary education. Men and women were almost equally distributed in terms of the level of education: 89.8% (n= 176) of the males and 87.1% (n=155) of females have completed postsecondary education.

About double the proportion of male participants (52.6%, n=103) as female participants (22.5%, n=40) are employed full-time. And, almost three times a greater proportion of males (37.2%, n=73) as females (14.0%, n=25) are full-time students. Slightly more than half of the female subjects (52.8%, n=94) are homemakers. As for the monthly household income before taxes, 30.2% of the respondents (n=113) reported monthly household income less than \$2,500, 26.5% of the respondents (n=99) between \$2,500 and \$4,999, and 43.3% of the respondents (n=162) reported \$5,000 or over.

Level of acculturation is a summated score of five questions measuring 1) English proficiency, 2) self-identifying as Korean or American, 3) identifying close friends as Korean or American, 4) food preference, and 5) TV/Video viewing preference. These items are 5-point scales and scores range from 5-25, with higher scores indicating higher level of acculturation. The mean value for the level of acculturation is 8.5 (SD=2.7), with most respondents (88.7%, n=332) in the score ranges of 8 to 15. The gender distribution of the level of acculturation is about equal and consistent with the total sample: most males (88.2%, n=173) and females (89.4%, n=159) have score ranges of 8 to 15.

Although gender difference in terms of the average score of the level of acculturation is not significant, examining individual items revealed interesting gender differences in the ways the respondents rate their English proficiency. The majority of the study subjects (78.1%, n=292) reported that they speak mostly Korean, and this is consistent with both men and women: most of the men (76.5%, n=150) and women (79.8%, n=142) reported to speak mostly Korean. However, a gender difference is revealed in rating their level of English proficiency: almost double the proportion of males (20.4%, n= 40) as females (10.1%, n=18) rated their English as “good” or “fluent”, and nearly double the proportion of females (52.3%, n=93) as males (26.1%, n=51) rated their English as “poor” or “not fluent at all”.

Among the 93 female respondents who considered their English proficiency as poor or not fluent at all, 93.5% (n=87) are married, 73.1% (n=68) are homemakers, 66.7% (n=62) have children, 88.2% (n=82) have completed college or higher education, and 68.8% (n=64) have monthly household income less than \$5,000 (39.8% less than \$2,999 and 29.0% between \$2,999 and \$4,999). The mean age of these 93 female respondents is 37.4 (SD=7.8), with half of them (52.7%, n=49) between the age range of 30 to 36. On average, they migrated to the U.S. at 30.6 years (SD=6.7), with the majority (69.9%, n=65) between the age of 25 to 32. Furthermore, they have lived in the U.S. on average for 6.8 years (SD=6.6), with 47.3% (n=44) less than 5 years and 37.6% (n=35) for 5 to 9 years. Compared to the total sample, these 93 female respondents have on average a shorter length of U.S. residence (6.8 years versus 8.5 years) and the majority of them (73.1%) are homemakers.

The majority of the respondents (74.6%, n=279) of this study considered themselves as “*very Korean*” or “*mostly Korean*”, while 22.5% (n=84) considered themselves as “*bicultural*” and only 2.9% (n=11) as “*mostly American*”. About half of the respondents (48.9%, n=183) reported to have “*mostly Korean friends*” and 40.1% (n=150) reported to have “*Korean friends only*”. The majority of the respondents (71.1%, n=266) reported to eat Korean foods, and 40.6% (n=132) reported to watch Korean TV/video program.

The majority (71.9%, n=269) of the sample identified themselves as Protestant Christian, while 8.8% (n=33) as Catholic, 4.5% (n=17) as Buddhist, and 14.7% (n=55) as non-religious. This distribution is consistent in both men and women: 70.9% (n=139) of the male and 73.0% (n=130) of the female respondents identified themselves as Protestant Christian. In addition, most of the respondents (86.4%, n=323) reported that their religious/spiritual beliefs were “*somewhat or very important*”. This is also consistent in both men (83.7%, n=164) and women (89.3%, n=159).

Table 4.1 Characteristics of Demographic Variables (N=374)

Demographic Variables	n	%
<u>Age</u> (M=37.06, SD=8.3)		
21-29	46	12.3
30-39	235	62.8
40-49	62	16.6
50-59	23	6.2
60-78	8	2.1
<u>Age of Immigration</u> (M=28.59, SD=6.89)		
16-19	33	8.8
20-29	191	51.1
30-39	130	34.8
<u>Length of US Residency</u> (M=8.47, SD=7.57)		
0-5 years	159	42.5
6-10 years	129	34.5
11-15 years	32	8.6
16-20 years	23	6.1
21-46 years	31	8.3
<u>Language</u>		
Korean only	30	8.0
Mostly Korean & some English	292	78.1
Mostly English & some Korean	52	13.9
<u>Level of Acculturation*</u> (M=11.82, SD= 2.65)		
5-12	228	61.0
13-21	146	39.0
<u>Gender</u>		
Female	178	47.6
Male	196	52.4
<u>Marital Status</u>		
Married-living together	284	75.9
Married-living apart	9	2.4
Single	73	19.6
Separated/divorced	7	1.8
Widowed	1	0.3
<u>Number of Children under the age of 18</u>		
0	180	48.1
1-2	179	47.9
3-4	15	4.0

<u>Level of Education</u>		
Elementary or middle school diploma	7	1.9
High school diploma or GED	36	9.6
Bachelor's degree	169	45.2
Master's degree	120	32.1
Doctoral or professional degree	42	11.2
<u>Employment Status</u>		
Homemaker	94	25.1
Not employed	8	2.1
Retired	4	1.1
Full-time student	98	26.2
Part-time student	15	4.0
Employed full-time	143	38.2
Employed part-time	12	3.2
<u>Household Monthly Income</u>		
\$2,499 or less	113	30.2
\$2,500 - \$4,999	99	26.5
\$5,000-\$7,499	62	16.6
\$7,500-\$9,999	45	12.0
\$10,000 or more	55	14.7
<u>Religion</u>		
Protestant Christian	269	71.9
Catholic	33	8.8
Buddhist	17	4.5
Non-religious	55	14.7
<u>Importance of Religion</u>		
Not at all important	51	13.6
Somewhat important	106	28.3
Very important	217	58.0

1.2. Descriptive Analysis of Demographic Variables

One of the major interests of this study is to understand the prevalence and level of depression in the sample. Almost half of the study subjects (47.1%, n=176) are considered as experiencing depressive symptoms, with a mean score of 15.7 (SD=8.9).

Slightly more female (48.5%, n=95) than male (45.5%, n=81) respondents are considered as experiencing depressive symptoms. On the average, the female respondents

experienced slightly higher depressive symptoms ($M=15.8$, $SD= 9.3$) than the male respondents ($M=15.6$, $SD= 8.5$). However, this gender difference is not statistically significant ($t=.139$, $p=.889$).

On the other hand, marital status is a significant correlate of depression: 43.7% ($n=128$) of the married respondents are considered as experiencing depressive symptoms, while 59.3% ($n=48$) of the unmarried respondents are considered as experiencing depressive symptoms. The difference between the mean score of CES-D for the married respondents (15.1 , $SD= 8.9$) and the unmarried respondents (17.9 , $SD=8.3$) is statistically significant ($t= -2.541$, $p= .011$).

More specifically, for males, the married respondents ($M= 14.5$, $SD=8.5$) are on average less depressed than the unmarried respondents ($M=18.3$, $SD=8.1$), and this difference is statistically significant ($t= -2.924$, $p= .004$). However, marital status is not a significant depression correlate for females: the difference between the average CES-D score for the married respondents ($M=15.6$, $SD= 9.3$) and the unmarried respondents ($M=16.8$, $SD= 8.9$) is negligible ($t= -.579$, $p= .563$).

In addition, employment status is not a significant depression correlate. Regardless of gender, no significant difference is found between the employed, unemployed and student groups of the current sample. Overall, the employed respondents are more depressed ($M=16.0$, $SD= 8.6$) than the unemployed ($M=15.2$, $SD= 8.9$) or the students respondents ($M=15.8$, $SD= 9.2$). But, the difference among these groups is not significant ($F= .281$, $p= .755$).

By gender and employment status, 94.3% of the unemployed are female respondents and 69.0% of the employed are male respondents. For males, the unemployed respondents are more depressed ($M=17.7$, $SD=11.1$) than the employed ($M=15.9$, $SD=8.6$) or the students respondents ($M=15.2$, $SD= 8.3$). But, the difference among these three groups is not significant ($F= .361$, $p= .697$). For females, the students respondents are more depressed ($M=17.5$, $SD= 11.5$) than the employed ($M=16.2$, $SD= 8.8$) or the unemployed respondents ($M=15.0$, $SD= 8.7$). But, the difference among the three groups is not significant either ($F= .913$, $p= .403$).

In the current study, demographic variables such as subjective rating of English proficiency, self-identifying as Korean or American, identifying close friends as Korean or American, food preference, and TV/Video viewing preference were included to assess the level of acculturation. As a summated factor, level of acculturation has very low association with depression (correlation value of $-.151$, $p< .05$), but it is statistically significant. Examination of the individual variables has revealed that two of the acculturation variables, English proficiency and TV/Video viewing preference, are significant correlates of depression: correlation between English proficiency and depression is $-.122$ ($p< .05$) and correlation between TV/Video viewing preference and depression is $-.208$ ($p< .01$), both statistically significant. The major language that the respondents use (“*whether it’s mostly Korean or English*”) is not significantly associated with depression, but is strongly related with all of the other acculturation variables.

1.3. Path Analysis of Demographic Variables

In planning analysis, it was proposed that demographic variables would not be included in the SEM model. As presented in Table 4.2, correlations between depression and demographic variables were examined to investigate if there are any important demographic variables that are strongly associated with the dependent variable.

Table 4.2 Correlations between Depression and Demographic Variables

Demographic variables	1	2	3	4	5	6	7	8	9	10	11
1. depression	1										
2. age	.042	1									
3. US_length	.104*	.627**	1								
4. gender	-.007	-.076	-.025	1							
5. level_AC	-.151**	.092	.207**	.120*	1						
6. Marital_status	.158**	-.248**	-.036	.173**	.037	1					
7. # of children	-.004	.194**	.076	-.078	-.096	-.455**	1				
8. education	-.091	-.104*	-.206**	.236**	.152**	-.216**	.113*	1			
9. employment	.052	.065	.140**	.524**	.227**	.197**	-.118*	.138*	1		
10. income	-.046	.328	.367**	.016	.179**	-.153**	.164**	.001	.263**	1	
11. importance_religion	-.059	.177**	.126*	-.126*	.024	-.188**	.075	-.070	.013	.051	1

** . Significant at the .01 level

* . Significant at the .05 level

As shown in Table 4.2, none of the correlations show strong association with depression, but three of them are significant: correlations between depression and length of U.S. residence (.104, $p < .05$), level of acculturation (-.151, $p < .01$), and marital status (.158, $p < .01$). In order to investigate whether these variables explain a significant amount of variance in depression, a path model was specified in Figure 4.1.

As an extension of the regression analysis, path analysis is used to test the fit of the correlation matrix against two or more causal models (Gary, 2007; Keith, 2006; Kline, 2005). In path analysis, a regression is performed for each variable of the model and the regression weights predicted by the model are compared with the observed correlation matrix for the variables (Gary, 2007; Keith, 2006; Kline, 2005).

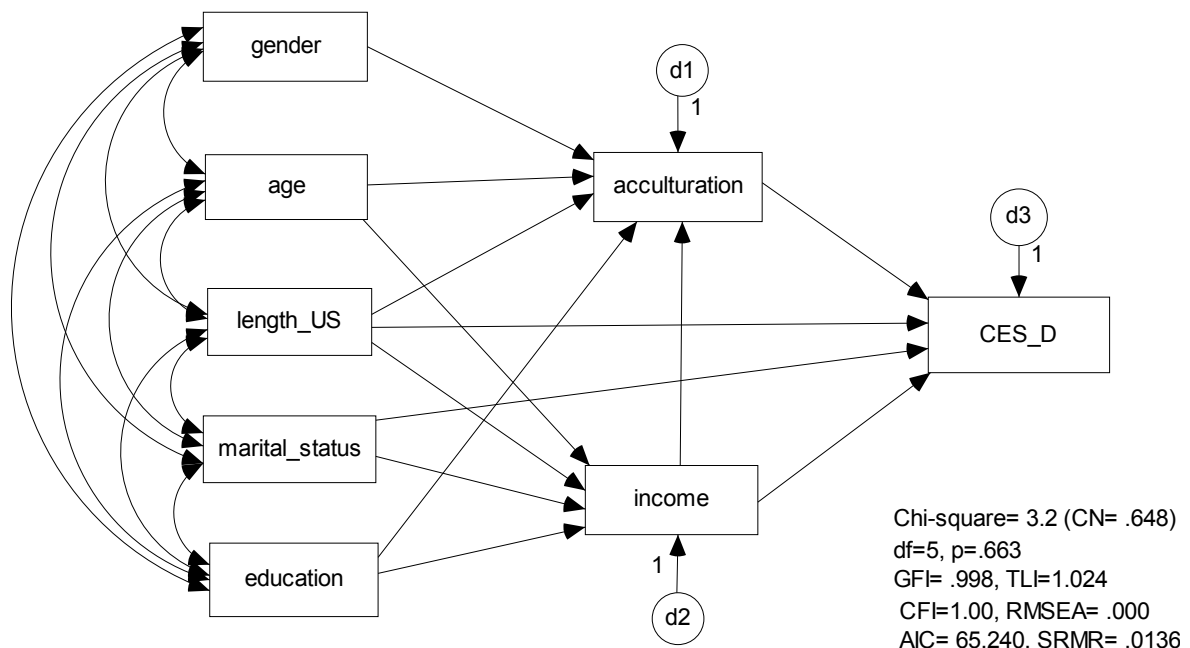


Figure 4.1 Path Model for Demographic Variables.

As presented in Figure 4.1, the path analysis yielded the model chi-square (χ^2) value of 3.2 with 5 degrees of freedom (df) and a probability of .663, indicating that the path model adequately fits the data. The normed chi-square ($NC = \chi^2 / df = .648$), which is an adjusted value based on parsimony principle, is less than 2.0, indicating adequate model fit. Additional fit indexes such as GFI, TLI, and CFI are all greater than .90, indicating adequate model fit. Also, RMSEA is less than .50 and SRMR is less than .08, indicating good model fit.

Table 4.3 Path Coefficients of the Path Model

Paths	Unstandardized	Standardized
<u>Length_US</u>		
→ income	.055***	.298**
→ acculturation	.089***	.254**
→ CES_D	.194**	.163*
<u>Marital status</u>		
→ income	-.159*	-.100 ^{ns}
→ CES_D	1.632**	.163*
<u>Acculturation</u>		
→ CES_D	-.613***	-.182*
<u>Education</u>		
→ income	.083 ^{ns}	.054 ^{ns}
→ acculturation	.520***	.178*
<u>Income</u>		
→ acculturation	.207*	.110*
→ CES_D	-.310 ^{ns}	-.049 ^{ns}
<u>Age</u>		
→ income	.021 ^{ns}	.122 ^{ns}
→ acculturation	-.025 ^{ns}	-.079 ^{ns}
<u>Gender</u>		
→ acculturation	.404 ^{ns}	.076 ^{ns}

*** p < .001, **: significant at .01 level, *: significant at .05 level, ns: not significant

As presented in Table, 4.3, seven of the standardized path coefficients are statistically significant, but these effects are minimal to small, ranging from .049 to .298. In addition, squared multiple correlations (R^2) for income (.165, $p = .053$), level of acculturation (.101, $p = .107$), and CES-D (.077, $p = .090$) are very small and none of them are statistically significant. Particularly, this model explains only 7.7% of the total variance in depression and this is not statistically significant.

Effects decomposition for the path analysis is presented in Table 4.4. Marital status, education, length of U.S. residence, and level of acculturation have statistically significant direct effects on depression. Education, length of U.S. residence, income, and level of acculturation have significant indirect effects on depression. Moreover, marital status, education, and level of acculturation have significant total effects on depression.

Interestingly, length of U.S. residence, which has significant direct and indirect effects on depression, does not have a significant total effect on depression. Likewise, income has a significant indirect effect on depression through level of acculturation, but no total effect. On the contrary, level of education does not have a significant direct effect, but it has significant indirect effect through level of acculturation.

For males, marital status (2.159, $p = .010$), length of U.S. residence (.311, $p = .012$), and level of acculturation (-.689, $p = .014$) have significant direct effects on CES-D; education (-.420, $p = .029$), and length of U.S. residence (-.089, $p = .009$) have significant indirect effects on CES-D through level of acculturation; and marital status (2.229, $p = .008$), education (-.420, $p = .029$), length of U.S. residence (.222, $p = .020$), and level of

acculturation (-.689, $p = .014$) have significant total effects on CES-D. However, for females, none of these variables have significant direct, indirect or total effects on CES-D.

Table 4.4 Effects Decomposition: Standardized Effects of Path Model

Causal variables	Effects	Endogenous variables		
		Income	Acculturation	CES-D
Marital status	<i>Direct</i>	-.110 ^{ns}		.163*
	<i>Total Indirect</i>		-.012 ^{ns}	.008 ^{ns}
	<i>Total</i>	-.110 ^{ns}	-.012 ^{ns}	.171*
Education	<i>Direct</i>	.041 ^{ns}	.178*	
	<i>Total Indirect</i>		.005 ^{ns}	-.035**
	<i>Total</i>	.041 ^{ns}	.183*	-.035**
Length_US	<i>Direct</i>	.295*	.254**	.165**
	<i>Total Indirect</i>		.033*	-.067**
	<i>Total</i>	.295*	.287**	.099 ^{ns}
Age	<i>Direct</i>	.123 ^{ns}	-.079 ^{ns}	
	<i>Total Indirect</i>		.014 ^{ns}	.006 ^{ns}
	<i>Total</i>	.123 ^{ns}	-.066 ^{ns}	.006 ^{ns}
Gender	<i>Direct</i>	.041 ^{ns}	.076 ^{ns}	
	<i>Total Indirect</i>		.005 ^{ns}	-.017 ^{ns}
	<i>Total</i>	.041 ^{ns}	.081 ^{ns}	-.017 ^{ns}
Income	<i>Direct</i>		.110*	-.049 ^{ns}
	<i>Total Indirect</i>			-.020*
	<i>Total</i>		.110*	-.069 ^{ns}
Acculturation	<i>Direct</i>			-.182*
	<i>Total Indirect</i>			
	<i>Total</i>			-.182*

** : significant at .01 level, * : significant at .05 level, ns: not significant

For married respondents, level of acculturation (-.704, $p = .005$) has a significant direct effect on CES-D; education (-.340, $p = .017$), length of U.S. residence (-.081, $p = .019$), and income (-.168, $p = .012$) have significant indirect effects on CES-D through the level of acculturation; and education (-.340, $p = .017$) and level of acculturation (-.704, $p = .005$) have significant total effects on CES-D. However, for the unmarried, none of these variables have significant direct, indirect, or total effects on CES-D.

For the married males, length of U.S. residence has a significant direct effect on CES-D (.278, $p = .029$); education has a significant indirect effect on CES-D through level of acculturation (-.345, $p = .037$); and, education (-.345, $p = .037$) and length of U.S. residence (.202, $p = .047$) have significant total effects on CES-D. For the married females, level of acculturation has a significant direct effect on CES-D (-.648, $p = .019$); income has a significant indirect effect on depression through acculturation (-.251, $p = .013$); and level of acculturation has a significant total effect on depression (-.648, $p = .019$).

For the unmarried males, acculturation has a significant direct effect on CES-D (-.612, $p = .043$); length of U.S. residence has a significant indirect effect on CES-D through level of acculturation (-.169, $p = .030$); and, acculturation has a significant total effect on CES-D (-.612, $p = .043$). For the unmarried females, none of the variables have significant direct or indirect effects on CES-D.

In sum, the model better explains males than females and the married than unmarried. Overall, the path model fits the data adequately. However, the model explains only 7.7% of the total variance in depression and it is not statistically significant. One

variable, level of acculturation, shows significant effects on CES-D across gender and marital status. A standard measure of acculturation stress which assesses the similar constructs and has good known reliability is included in the SEM model. Therefore, it is decided that none of the demographic variables are to be included in the SEM analysis.

1.4. Descriptive Analysis of the Observed Variables

Before SEM, descriptive analysis of the observed variables is conducted and it is presented in Table 4.5. One of the major interests of this study is to understand the prevalence and level of depression in the sample. Based on the Radloff's (1977) cutoff point of 16 on CES-D, almost half of the current study subjects (47.1%, $n=176$) are considered as having depressive symptoms, with a mean score of 15.71 ($SD=8.87$). All the observed variables of the study are significantly related with depression, except the religiosity indicators.

Negative life events, perceived stress, and five indicators related to acculturation stress are used to measure the latent stressor variable. The seven indicators of the stressor factor are as follows: life events, perceived stress, language barrier (English), social isolation, difficulties in socioeconomic adjustment, sense of marginality, and difficulties in family relations.

The mean score of negative life events is 6.6 ($SD=8.1$). This implies that the respondents have rated on average 6.6 events as negative out of 44 possible events that they might have experienced in the past year. Overall, the sample of this study has low negative life events scores, with the majority of the respondents (about 70%) having

scores lower than the mean. The mean score of perceived stress is 18.1 (SD=5.1), implying that the respondents have “*sometimes*” perceived stress in a certain way in the past month.

Among the indicators of acculturation stress, the mean score of language barrier (M= 7.3, SD=3.6) is higher than those of social isolation (M=5.6, SD=3.2), socioeconomic adjustment (M=5.0, SD=4.4), sense of marginality (M=3.5, SD=3.3), and difficulties in family relations (M=2.3, SD=2.9). On average, the sample experiences language difficulties more than “*sometimes*”, social isolation more than “*sometimes*”, difficulties in socioeconomic adjustment less than “*sometimes*”, sense of marginality less than “*sometimes*”, and difficulties in family relations much less than “*sometimes*”.

Coping is actively used by the study respondents in dealing with stressful circumstances. Especially, task-oriented coping (M= 37.0, SD=10.6) are more frequently used than emotion-oriented coping (M=23.6, SD= 9.7) or avoidance-oriented coping (M=24.8, SD= 9.6). In other words, task-oriented coping is used more than “*sometimes*”, while emotion- and avoidance-oriented coping is used much less than “*sometimes*”.

Perceived social support (PSS) are measured by three different sources of social support: family, friends, and significant others. The respondents of this study perceived social support from all three sources, but slightly more from family (M=13.2, SD= 3.2) than from friends (11.1, SD=3.4) or significant others (M= 12.4, SD= 3.4). Overall, the respondents “*agree*” that they have social support from family, friends, and significant others.

Mastery and self-esteem are two indicators of the personal resources factor. The mean score of mastery is 13.2 (SD= 3.6), implying that the respondents “*somewhat agree*” with the statements describing the sense of control. The mean score of self-esteem is 20.5 (SD=4.9), implying that the respondents “*somewhat agree*” with the statement about themselves.

The religiosity latent variable is measured by religious beliefs/practices and religious social support. The mean score of religious beliefs and practices is 21.4 (SD=9.1), implying that the respondents “*somewhat agree*” with the statements describing the religious beliefs and practices. And, the mean score of religious social support is 9.2 (SD=4.9), implying that the respondents “*somewhat agree*” with the statement describing religious social support.

Table 4.5 Descriptive Analysis of the Observed Variables

Observed Variables	n	%	M	SD
<u>Depression</u>				
CES-D			15.7	8.9
0-15	198	52.9		
16-52	176	47.1		
<u>Stressors</u>				
Negative Life Events			6.6	8.1
0-7	265	70.9		
8-60	109	29.1		
Perceived Stress			18.1	5.1
0-18	209	55.9		
19-35	165	44.1		
Language Barriers			7.3	3.6
0-7	198	52.9		
8-18	176	47.1		
Social Isolation			5.3	3.2
0-5	218	58.3		
6-15	156	41.7		

Socioeconomic Adjustment			5.0	4.4
0-5	237	63.4		
6-22	137	36.6		
Sense of marginality			3.6	3.3
0-4	257	68.7		
5-18	117	31.3		
Difficulties in Family relations			2.3	3.0
0-3	280	74.9		
4-18	94	25.1		
<u>Coping</u>				
Task-oriented Coping			37.0	10.6
4-37	199	53.2		
38-64	175	46.8		
Emotion-oriented Coping			23.6	9.7
0-24	198	52.9		
25-51	176	47.1		
Avoidance-oriented Coping			24.8	9.6
2-25	192	51.3		
26-51	182	48.7		
<u>Perceived social support (PSS)</u>				
PSS from Family			13.2	3.2
2-13	168	44.9		
14-16	206	55.1		
PSS from Friends			11.1	3.4
0-11	185	49.5		
12-16	189	50.5		
PSS from Significant Others			12.4	3.4
2-12	177	47.3		
13-16	197	52.7		
<u>Personal Resources</u>				
Mastery			13.2	3.6
3-13	211	56.4		
14-21	163	43.6		
Self-esteem			20.5	4.9
2-20	185	49.5		
21-30	189	50.5		
<u>Religiosity</u>				
Religious Beliefs and Practices			21.4	9.1
0-21	158	42.2		
22-30	216	57.8		
Religious Social Support			9.2	4.9
0-9	175	46.8		
10-15	199	53.2		

In addition, correlations between the observed variables and the dependent variable were examined. As shown in Table 4.6, all the observed variables are significantly related with depression, except religiosity related indicators, which are religious beliefs/practices and religious social support. However, it is decided to include the religiosity factor into the SEM model in order to compare the study findings with the previous research findings that indicated a significant relationship between religiosity and depression. Further analyses about the relationships between the observed variables and depression as well as the relationships among the observed variables were conducted in Structural Equation Modeling analysis.

Table 4.6 Correlation Matrix of the Observed Variables

Observed Variables	1	2	3	4	5	6	7	8	9
1. CES-D	1								
2. L_E	.265**	1							
3. Language	.188**	.100	1						
4. Isolation	.343**	.138**	.203**	1					
5. SES	.367**	.303**	.224**	.458**	1				
6. Marginality	.304**	.318**	.263**	.338**	.608**	1			
7. Family	.351**	.404**	.150**	.319**	.460**	.502*	1		
8. P_S	.602**	.168**	.208**	.217**	.204**	.157**	.193**	1	
9. T_O	-.240**	-.099	-.101	-.088	-.125*	-.102*	-.111*	-.157**	1
10. E_O	.500**	.169**	.216**	.288**	.286**	.302**	.238**	.470**	-.045
11. A_O	.185**	.149**	.137**	.184**	.192**	.237**	.251**	.117*	.088
12. SS_fam	-.311**	-.286**	-.028	-.097	-.225**	-.279**	-.422**	-.096	.329**
13. SS_fri	-.234**	-.161**	.030	-.151**	-.201**	-.222**	-.197**	-.084	.216**
14. SS_sig	-.373**	-.270**	-.034	-.177**	-.253**	-.317**	-.393**	-.117*	.314**
15. Mas	-.479**	-.058	-.161**	-.157**	-.260**	-.292**	-.255**	-.460**	.249**
16. SE	-.524**	-.183**	-.204**	-.262**	-.325**	-.314**	-.278**	-.446**	.384**
17. Re_bp	-.099	-.061	.064	-.178**	-.083	-.013	-.058	.059	.014
18. RE_ss	-.079	-.048	.071	-.169**	-.049	.034	-.006	.066	.000

Table 4.6 (continued) Correlation Matrix of the Observed Variables

Observed Variables	10	11	12	13	14	15	16	17	18
1. CES-D									
2. L_E									
3. Language									
4. Isolation									
5. SES									
6. Marginality									
7. Family									
8. P_S									
9. T_O									
10. E_O	1								
11. A_O	.513**	1							
12. SS_fam	-.155**	-.028	1						
13. SS_fri	-.093	.116*	.536**	1					
14. SS_sig	-.174**	-.034	.744**	.653**	1				
15. Mas	-.469**	-.116*	.329**	.293**	.272**	1			
16. SE	-.502**	-.171**	.400**	.287**	.416**	.581**	1		
17. Re_bp	-.023	.086	.105*	.105*	.200**	-.146**	.027	1	
18. RE_ss	-.005	.124*	.157**	.157**	.171**	-.162**	.017	.863**	1

** . Significant at the .01 level, * . Significant at the .05 level

2. DATA PREPARATION AND SCREENING

In this section, the process of data preparation and screening is discussed. It is recommended that original data should be carefully screened for problems with underlying assumptions before a raw data file is created for Structural Equation Modeling (SEM) (Kline, 2005). Different assumptions for SEM are evaluated and adequate decisions are made based on each of the diagnostic statistics.

2.1. Missing Data

As with most multivariate statistical analysis, SEM is plagued by problems with missing data (Allison, 2003). Conventionally, listwise or pairwise deletion has been used for handling missing data in many statistical procedures. However, AMOS uses a maximum likelihood method (also known as Full Information Maximum Likelihood) to handle incomplete data. Many studies criticize listwise, pairwise, and mean imputation in terms of its inefficiency and being biased (Brown, 1983, 1994; Little & Rubin, 1987), and indicate that maximum likelihood outperforms these common methods (Allison, 2003; Wothke, 2000, Von Hippel, 2004). Maximum likelihood estimation is known to be more efficient, less biased, and very optimal in handling missing data based on the assumption that the data are missing at random (MAR) (Allison, 2003; Wothke, 2000).

Missing data analysis of this study involves a twofold process: first, analysis of the number of variables with missing data for each case, and second, analysis of the patterns of missing data. Using the SPSS function of “NMISS”, the number of variables

that have missing values for each case were counted and six cases were identified as missing 50% or more of the data. Excluding these 6 cases from the total of 380 reduced the effective sample size to 374. Missing data are less than 5% in the individual observed variables, and there are no missing data with the composite score of 374 cases.

In addition to the proportion of the missing data, the importance of inspecting the patterns of missing data is well addressed by many researchers (Hox, 1999; Hair, Anderson, Tatham, & Black, 1998). To examine whether or not the pattern of missing data is random, dichotomous grouping variables were created for all the variables in the data set to indicate whether the variable is missing (coded “0”) or valid (coded “1”). Then t-tests were used to determine whether the valid and missing groups differ in their relationship to other variables in the data set. The results show that the missing and valid groups are statistically equivalent on other variables, indicating that the missing cases are random. In addition, a correlation matrix for the dichotomous grouping variables was examined to inspect if there are large correlations among the variables that show a strong pattern of systematic missing data. The correlation matrix showed no serious problem with the patterns of missing data and indicated the patterns of missing data are ignorable.

2.2. Sample Size

All the studies on SEM agree that a large sample size is critical in the estimation and interpretation of SEM since larger samples produce much less sampling error than smaller samples (Garson, 2007; Hair et al., 1998; Kline, 2005). However, there is no absolute guideline in the literature about how large a sample size should be. Some

authors recommend a minimum sample size of 100, desirably 200 (Hoyle, 1995; Loehlin, 2004). Others indicate that maximum likelihood (ML) estimation, the most common estimation procedure used in SEM, generally provides valid results with a sample size of 200 (Garson, 2007; Hair et al., 1998). Moreover, the following general rules are widely used: a minimum ratio of 5 respondents for each estimated parameter, with a ratio of 10:1 as more appropriate, and 20:1 as desirable (Hair et al., 1998; Kline, 2005). In case the data meet all other assumptions, Benter and Chou (1987) allow as few as 5 cases per parameter including errors and path coefficients. However, in cases where the assumption of multivariate normality is violated, the ratio of 15 respondents for each parameter is recommended (Hair et al., 1998). In addition, Stevens (1996) recommends at least 15 cases per observed variable and Mitchell (1993) recommends 10-20 cases per observed variable. Benter and Chou's recommendation, 5 cases per parameter estimate, conforms to Steven's recommendation, which requires 15 cases per measured variable (ITS information Technology Services, 2001).

In this study, a total of 384 surveys were collected and 380 were entered, excluding 4 cases because the respondents were younger than 16 years old at the time of immigration. Among the 380 cases, six were identified as missing 50% or more of the data and excluded from the analysis. Therefore, the effective sample size of the study is 374. First of all, this meets the general recommendation of a sample size of 100-200. Second, based on the guideline for ratio of cases per parameter, this study has about 7 respondents for each estimated parameter since there are 54 parameters in the measurement model including error terms. The approximate ratio of 7:1 meets the

minimum ratio of 5:1 and is close to the appropriate ratio of 10:1. Third, based on the rule of the ratio of cases per indicator, this study has almost 22 cases for each indicator since there are 374 cases and 17 observed variables in the final measurement model. This meets both Steven's (1996) recommendation of 15 cases per indicator and Mitchell's (1993) recommendation of 10-20 cases per indicator.

2.3. Outliers

Outliers are extreme or atypical cases that are distinctively different or distant from the other cases either for a single variable (univariate outliers) or for a combination of variables (multivariate outliers) (Hair et al., 1998; Kline, 2005). In this study, multivariate outliers were detected by Mahalanobis D^2 . Mahalanobis D^2 measures the distance in standard deviation units between the sample means for all variables (centroids) and a set of scores (vector) for an individual case in the analysis (Hair et al., 1998; Kline, 2005).

Thirty eight cases out of 374 were identified as outliers with a probability value of Mahalanobis D^2 less than .05. Descriptive and diagnostic analyses were repeated without the thirty eight cases to examine what impact their omission had on the findings. Omission of the extreme cases improved the model in terms of assumptions, particularly kurtosis. However, the descriptive results were not much different from those with the extreme cases, and it was concluded that the results were not more representative without these extreme cases.

In addition, Cook's distance scores were requested to detect influential cases. Using the cutoff formula of $4/(n-k-1)$, where n is the number of cases and k is the number of independent variables, Cook's distance identified thirteen cases as influential that may distort the solution. Descriptive and diagnostic analyses were repeated without the thirteen influential cases, but the results were not more representative. None of these outliers were found to be due to errors in administration or in data entry. Therefore it was decided to retain these outliers in further analysis.

2.4. Multivariate Normality

Multivariate normality is required by maximum likelihood estimation, which is the most widely used method in SEM (Kline, 2005). Multivariate normality assumes that "each of the individual variables is normally distributed, any linear combinations of the variables are normally distributed, and all subsets of the set of variables have multivariate normal distributions" (Stevens, 1996, p.243). Multivariate normality in SEM requires that each indicator should be normally distributed for each value of each other indicator (Garson, 2007). Violation of this assumption can lead to inflation or deflation of chi-square values (Garson, 2007; Kline, 2005).

In many cases multivariate normality is detected through inspection of univariate distributions (Kline, 2005). A common criteria for assessing normality is to examine skewness and kurtosis statistics: skew and kurtosis values should be between +2 and -2 for the data to be normally distributed at a .05 level (Garson, 2007), or between the critical ratio of +1.96 and -1.96 (Hair et al, 1998). Some researchers consider variables

with an absolute value of skew statistic greater than 3 as extremely skew. However, for the kurtosis index, much less consensus and more lenient rules have been reported. Some authors use a range between +3 and -3 (Garson, 2007), and others use a value no greater than 7 (Curran, West, & Finch, 1996) or a value no greater than 10.0 (Kline, 2005). All the skewness and kurtosis values of the indicators in this study fall between the range of +2 and -2, with the exception of two kurtosis indexes, life events (kurtosis value of 7.18) and difficulties in family relations (kurtosis value of 3.88). Based on the more lenient criteria for kurtosis index no greater 10, these values can be considered as not serious problems.

In addition to skewness and kurtosis statistics, graphical inspection and specific statistical tests for normality were used. Histogram and normal probability plot (normal Q-Q plot) indicated normality problems with nine indicators out of eighteen. Based on the two most common tests for normality, Shapiro-Wilks test and the Kolmogorov-Smirnov test with the Lilliefors correction, fifteen indicators were identified as nonnormal with significance value less than .05. Three transformations (log, square root, and inverse) were computed for them, but none of the transformations were effective for thirteen nonnormal indicators. Two indicators for which there was a normality problem were corrected with square root transformation. Since the benefit of transformation was slight considering the additional complexity in the interpretation of the results, it was decided to retain the original variables.

2.5. Linearity

SEM assumes linear relationships between the indicator and latent variables, and between latent variables (Garson, 2007). Since there is no simple score to test the linearity of a relationship, scatterplot matrices were visually inspected for evidence of nonlinearity and the impact of three transformations (Log, Squared, Square root, and Inverse). In addition, correlation matrices were examined to see whether the strength of nonlinear relationships is enhanced with the transformations.

Based on the scatterplot matrices, none of the relationships among the indicators in the analysis showed obvious violations of linearity. For a few relationships that showed very slight nonlinearity, none of the transformations were effective to significantly improve the relationships. Additional information from correlation matrices confirmed that none of the transformations significantly enhanced the strength of the relationships. There is no serious evidence of nonlinearity or curvilinear relationship among the metric variables in the analysis.

2.6. Homoscedasticity

Homoscedasticity is one of the assumptions for multivariate analysis that requires each group or category of independent variables to have homogenous variance on the metric dependent variables (Hair et al., 1998). As in the linearity test, a scatterplot matrix was also used to visually evaluate for homoscedasticity. If the band of points in a scatterplot is narrower at one end than at the other, like a funnel or triangle shape, the homoscedasticity assumption is considered to be violated. In this study, none of the

scatterplots showed any indication of heteroscedasticity. Moreover, Leven's test confirmed the visual inspection of homogeneity. All the values in Leven's test have significance values greater than .05. Thus, the homoscedasticity assumption is met.

2.7. Multicollinearity

Multicollinearity occurs when a researcher includes two overlapping variables that actually measure the same thing (Kline, 2005). Multicollinearity can be a problem in cases where multiple measures of the same construct are included in the study (Keith, 2006). It occurs when intercorrelations among some variables are so high that certain mathematical operations are impossible because some denominators are close to zero (Kline, 2005). Even though multicollinearity does not cause estimates to be biased, it does cause relative strengths of the variables and the joint effects to be unreliable (Kline, 2005).

A correlation matrix was evaluated to inspect pairwise multicollinearity. Generally, intercorrelation above .85 or .90 is suggested to be a problem (Garson, 2007; Keith, 2006; Kline, 2005). As presented in Table 4.6, only one correlation between religious social support and religious belief and practice, is slightly higher than .85 ($r = .863$), but less than .90. Religious belief and practice and religious social support are the two indicators measuring the latent religiosity variable.

Multivariate multicollinearity was identified by tolerance or variance inflation factor (VIF). Tolerance value is the proportion of total standardized variance that is unique and it equals $1 - R^2$ (squared multiple correlations) (Hair et al., 1998; Kline, 2005).

Variance inflation factor (VIF) is the ratio of the total standardized variance to unique variance (the inverse tolerance) and it equals $1 / (1-R^2)$ (Hair et al., 1998; Kline, 2005). Tolerance values of less than .10 or VIF greater than 10 indicates multicollinearity (Hair et al., 1998; Kline, 2005). Neither the tolerance values nor the VIF statistics indicate a problem of multicollinearity for any of the observed variables in the analysis.

2.8. Scale Reliability

The scores analyzed in SEM are required to be reliable and free from random measurement error (Kline, 2005). Reliability is a measure of internal consistency of the construct indicators and assesses the degree to which the responses are consistent across the items within the common construct (Hair et al., 1998; Kline, 2005). Generally, reliability coefficient greater than .70 is identified as adequate.

All the measures included in this study are standard measures with good published reliability. However, the reported reliability may not generalize to the particular sample of this study. Cronbach's coefficient alpha (α), the most common estimate of reliability was used in this study. As presented in Table 4.7, all the internal reliability coefficients of the observed variables in the study are adequate.

Table 4.7 Cronbach's Alpha Coefficients of the Observed Variables

Constructs and indicators	α	Number of items
<u>Stressors</u>		
Life Events	.834	44
Perceived Stress	.746	10
<i>Acculturation Stress</i>		
Language difficulties	.814	6
Social Isolation	.777	5
SES Adjustment	.854	8
Sense of Marginality	.858	6
Family Relations	.833	6
<u>Perceived Social Support</u>		
Perceived Social Support from Family	.863	4
Perceived Social Support from Friends	.870	4
Perceived Social Support from Significant Others	.867	4
<u>Coping</u>		
Task-oriented Coping	.921	16
Emotion-oriented Coping	.884	16
Avoidance-oriented Coping	.862	16
<u>Personal Resources</u>		
Mastery	.724	7
Self-Esteem	.833	10
<u>Religiosity</u>		
Religious beliefs and practice	.968	10
Religious social support	.947	5
<u>Depression</u>		
CES-D	.896	20

As shown in Table 4.8, the internal reliability coefficients of the indicators in this study were compared with those from the author's study. They are very consistent with or higher than the reliability coefficients reported by the authors. This indicates that the translation of the instruments and sampling from a Korean population have little impact on the reliability.

Table 4.8 Comparison of Cronbach's Alpha Coefficients

Constructs and indicators	Number of items	Present study	Author's study
		(α)	(α)
Life Events	44	.834	.56 & .88
Perceived Stress	10	.746	.78
Acculturation Stress	31	.906	.91
Perceived Social Support	12	.926	.84 to .92
Coping	48	.895	high .80 to low .90
Mastery	7	.724	.72 to .78
Self-Esteem	10	.833	.74 to .85
Religiosity	15	.975	.93
CES-D	20	.896	.85

3. STRUCTURAL EQUATION MODELING

Structural Equation Modeling (SEM) is an extension of the general linear model (GLM) and incorporates two main parts: measurement model and path model (Garson, 2007; Kline, 2005, McDonald & Ho, 2002). Accordingly, the SEM process consists of two steps: validating the measurement model through confirmatory factor analysis and testing the structural model through path analysis with latent variables (Bollen, 1989; Garson, 2007; Kline, 2005, McDonald & Ho, 2002). It is recommended that the measurement model be evaluated before the structural component of SEM is tested (Garson, 2007; Kline, 2005, McDonald & Ho, 2002).

3.1. Measurement Model

Generally, the measurement model is a conventional confirmatory factor analysis (CFA) model as presented in Figure 4.2. In CFA models, there are no causal paths connecting the latent variables. All factors are allowed to correlate with each other, indicators are specified to load on one factor (factor loadings), and error terms are specified to be uncorrelated (Garson, 2007; Kline, 2005, McDonald & Ho, 2002). CFA analysis in SEM focuses on analysis of the error terms of the indicator variables (Garson, 2007). For the single indicator construct of depression, the error variance is estimated based on the formula: $(1 - \text{alpha reliability coefficient}) * \text{variance of the indicator}$ (Keith, 2005; Kline, 2005; Ping, 2003). The measurement model is evaluated like other structural equation models.

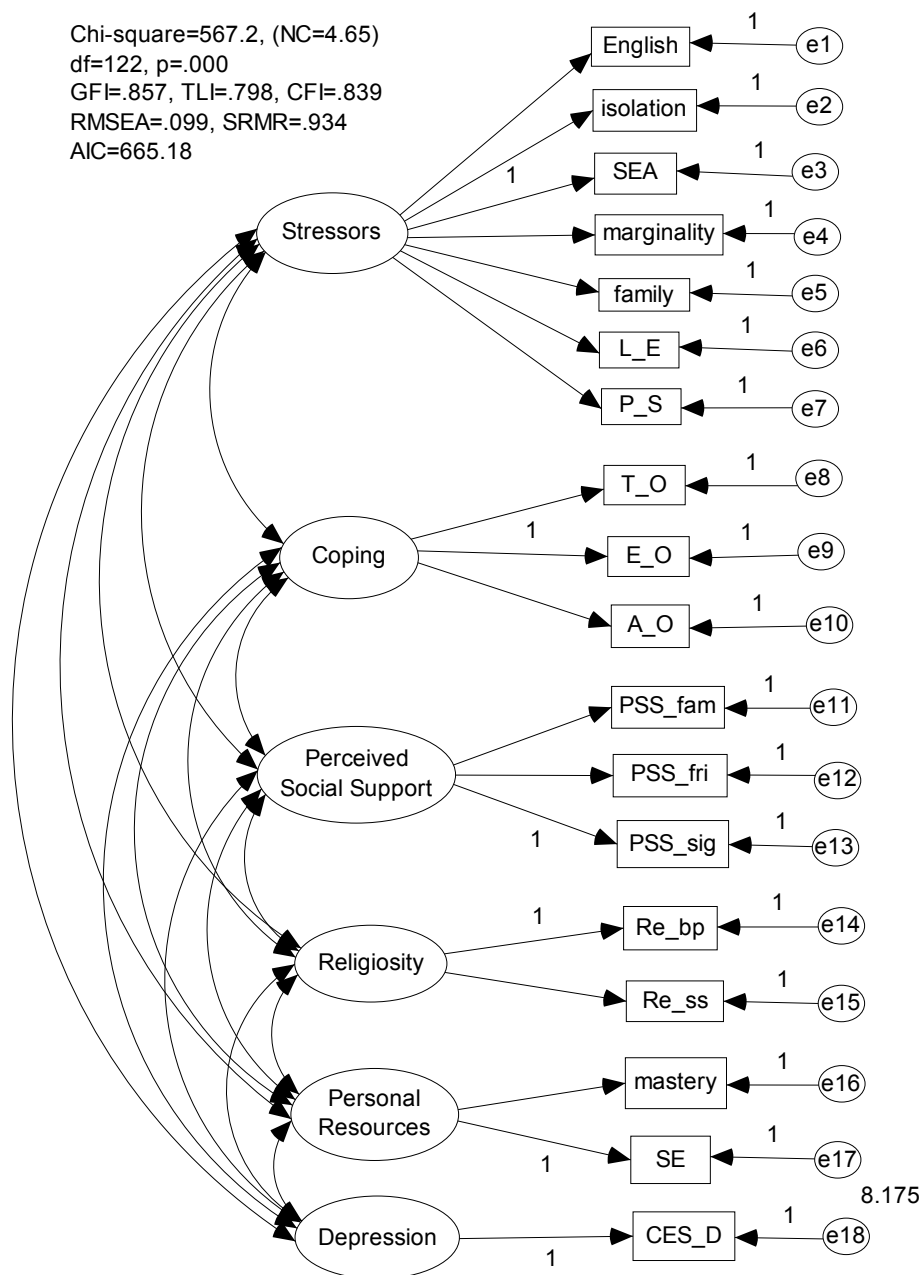


Figure 4.2 Initial Measurement Model.

The initial measurement model of the study was evaluated by confirmatory factor analysis. The measurement model converged to a solution, but was not admissible due to the negative error variance of emotion-oriented coping. According to many researchers, negative error variance is a common type of improper solutions in SEM (Bollen, 1987; Chen, Bollen, Paxton, Curran & Kirby, 2001; Nasser & Wisenbaker, 2003; Rindskopf, 1984). The negative error variance, also called Heywood case, occurs when the squared multiple correlations (R^2) between the factor and an indicator is greater than an absolute value of 1.00 (Chen et al., 2001; Kline, 2005). Several reasons are reported to cause the Heywood cases: the presence of outliers, small sample size (e.g., $N < 100$), only two indicators per factor, population correlation close to 1 or 0 that causes empirical underidentification, specification errors, and bad starting values in maximum likelihood estimation (Bollen, 1987; Chen et al., 2001; Garson, 2007; Nasser & Wisenbaker, 2003; Rindskopf, 1984).

Chen and his colleagues (2001) claim that negative error variance should not be used as clear evidence of model misspecifications, just as the lack of improper solutions does not necessarily mean good model structure. In the real world of sample data, a negative error variance can be caused by sampling fluctuations around a positive error variance in the population (Chen et al., 2001). In many cases, the researchers constrain the negative error variances to be zero or a small positive value. However, it is strongly recommended that the researchers attempt to inspect the causes of the problem before they constrain the variance to zero or a positive value (Chen et al., 2001; Kline, 2005).

Based on the recommendation by Chen et al (2001), the measurement model of the current study was investigated for any possible sources of negative error variance of emotion-oriented coping. First, the sample size ($N=374$) meets the minimum requirement and is not likely to be a problem. Second, the number of indicators per factor may be a problem because three factors in the model have only two indicators and one factor has a single indicator. Most researchers recommend using at least three indicators per factor since models using only two indicators are more likely to fail to converge and error estimates may be unreliable (Kline, 2005). However, adding more indicators to the factor needs to be considered a priori, before data are collected. Third, removing thirty eight outliers detected by Mahalanobis D^2 did not solve the negative error variance estimate.

Finally, it was attempted to change the starting value of the path coefficients for the three indicator variables of the coping factor. Sometimes the default starting values used by statistical programs are poor and occasionally cause estimation failure or Heywood cases (ITS, 2004; Kline, 2005). However, there are few guidelines on which basis these poor prior estimates should be replaced. Generating user-supplied starting values are more likely to be a trial and error procedure. The negative error variance of this study is due to the unreasonably high value of the squared multiple correlations (R^2) between the latent coping variable and the observed emotion-oriented coping variable. Among the three indicators of the latent coping variable, the emotion-oriented coping was specified as a reference variable and its loading on coping was set to 1. In addition, the factor loading from coping to avoidance-oriented coping was replaced by a new start value of .60 so that all the indicators of coping have R^2 values less than 1.00. This

researcher-generated starting value solved the Heywood problem and yielded a proper solution. In addition, the model with the new starting value was compared to the model with a negative error variance constrained to zero, and their inter-construct estimation and overall model fit were very close.

Test of the initial measurement model through confirmatory factor analysis yielded model chi-square (χ^2) value of 567.2 with 122 degrees of freedom (df) and a probability of .000, indicating the model does not fit the data adequately. Since the model chi-square is influenced by sample size based on the parsimony principle, the normed chi-square ($NC = \chi^2 / df$) was also used. Although there is no clear-cut rule about the acceptable values of normed chi-square (NC), researchers generally use the criteria of the normed chi-square (χ^2 / df) less than 2 as adequate fit. Less conservatively, Bollen (1989) discusses that the values of NC of 2.0, 3.0 or even as high as 5.0 indicate reasonable fit. The normed chi-square of this study is 4.65, indicating an inadequate fit based on the criteria of $\chi^2 / df < 2$.

There are many additional measures of model fit in the literature and six of the most widely used fit indexes are reported in this study: GFI (Goodness-of-Fit Index), TLI (the Tucker-Lewis Index), CFI (Comparative Fit Index), RMSEA (Root Mean Square Error of Approximation), AIC (Akaike Information Criterion), and SRMR (Standardized Root Mean Square Residual). The GFI represents the percent of measured covariance explained by the model (Tanaka, 1993). The TLI and CFI compare the fit of the existing model with a baseline model (Kline, 2005; Tanaka, 1993). Generally accepted rules for

the GFI, TLI, and CFI suggest that values higher than .90 represent adequate fit of the model to the data (Hu & Bentler, 1999).

The RMSEA is also widely used since it is a parsimony adjusted index (Kline, 2005). For RMSEA, values less than .05 represent approximate fit, values between .05 and .08 indicate reasonable error of approximation, and values greater than .10 represent poor fit (Brown & Cudeck, 1993). The AIC is also a parsimony adjusted and useful cross-validation index (Loehlin, 2004). Smaller AIC values indicate a better fit of the model to the data (Keith, 2006), and the model with smallest AIC value is preferred in comparing competing nonhierarchical models (Kline, 2005).

The SRMR is a measure of the average difference between the measured and predicted correlations (Keith, 2006; Kline, 2005). A general rule is that values of the SRMR less than .10 indicate adequate fit (Kline, 2005), with different researchers suggesting more conservative values of less than .08 as good fit (Garson, 2007; Hu & Bentler, 1999). Hu and Bentler (1998, 1999) suggest in simulation studies that SRMR is the best fit index of all.

The current study yielded the following fit values: GFI of .857, TLI of .798, CFI of .839, RMSEA of .099, AIC of 665.184, and SRMR of .0938. Overall, these fit indices indicate the initial measurement model does not adequately fit the data.

3.2. Respecification of the Measurement Model

Since the initial measurement model does not adequately fit the data, an attempt was made to respecify the confirmatory factor analysis (CFA) model. Many researchers assert that model respecification should be based on theoretical considerations as well as empirical criteria (Kenny, 1999; Kline, 2005). They also claim that only empirically-based modification can cause capitalization on chance or an overfitting model by adding unnecessary parameters to the model (Garson, 2007; Kenny, 1999; Kline, 2005).

First, factor loadings were evaluated to see if there is any indicator that fails to have substantive loading on the factor. Possible solutions for poor factor loading can be to assign the indicator to a different factor or to delete the indicator (Kenny, 1999; Kline, 2005). The factor loading from coping to task-oriented coping is very low (standardized path coefficient = -.05) and its corresponding squared multiple correlations is zero ($R^2 = .00$). Since it is not theoretically reasonable to load the indicator of task-oriented coping on the other factors, it is decided to estimate it separately, as a single factor indicator. Another factor loading from stressors to English (language difficulties) is also low, with standardized coefficient of .32 and its corresponding R^2 of .10. Although the loading is the same as Tabachnick and Fidell's (1996) minimum threshold of .32, this path was retained since language barrier is cited in the literature as a fundamental cause of the Korean immigrants' adjustment difficulties (Nah, 1993).

Also, the factor loading from stressors to perceived stress is low, with a standardized coefficient of .38 and corresponding R^2 of .14. Since the items of the measure of perceived stress are similar to those of the measure of mastery, it was

attempted to reload the perceived stress indicator on the personal resources factor. Generally, indicators are correlated with all factors in the confirmatory factor analysis model, but they should have higher correlations with the factors that they are measuring (Graham, Guthrie, and Thompson, 2003). However, the correlation matrix indicates that perceived stress is more strongly related with CES-D (.602) than with mastery (-.46), implying poor discriminant validity. Therefore, it is decided to delete the perceived stress indicator from the model.

Second, the values of Modification Indices (M.I.) were evaluated to see if any additional paths can improve the model fit by reducing the chi-square value (Kline, 2005). Among the many possible paths suggested by modification indices, two pairs of measurement errors were allowed to covary. First, the errors of the stress from family relations (family) and perceived social support from family (PSS_fam) are allowed to covary. These correlated errors are theoretically reasonable since the measures both contain family-related content. Second, the errors of the stress from family relations (family) and perceived social support from significant others (PSS_sig) are allowed to covary. It is also reasonable to allow these errors to covary because family members can be considered as one of the most significant others. The modified measurement model is presented in Figure 4.3.

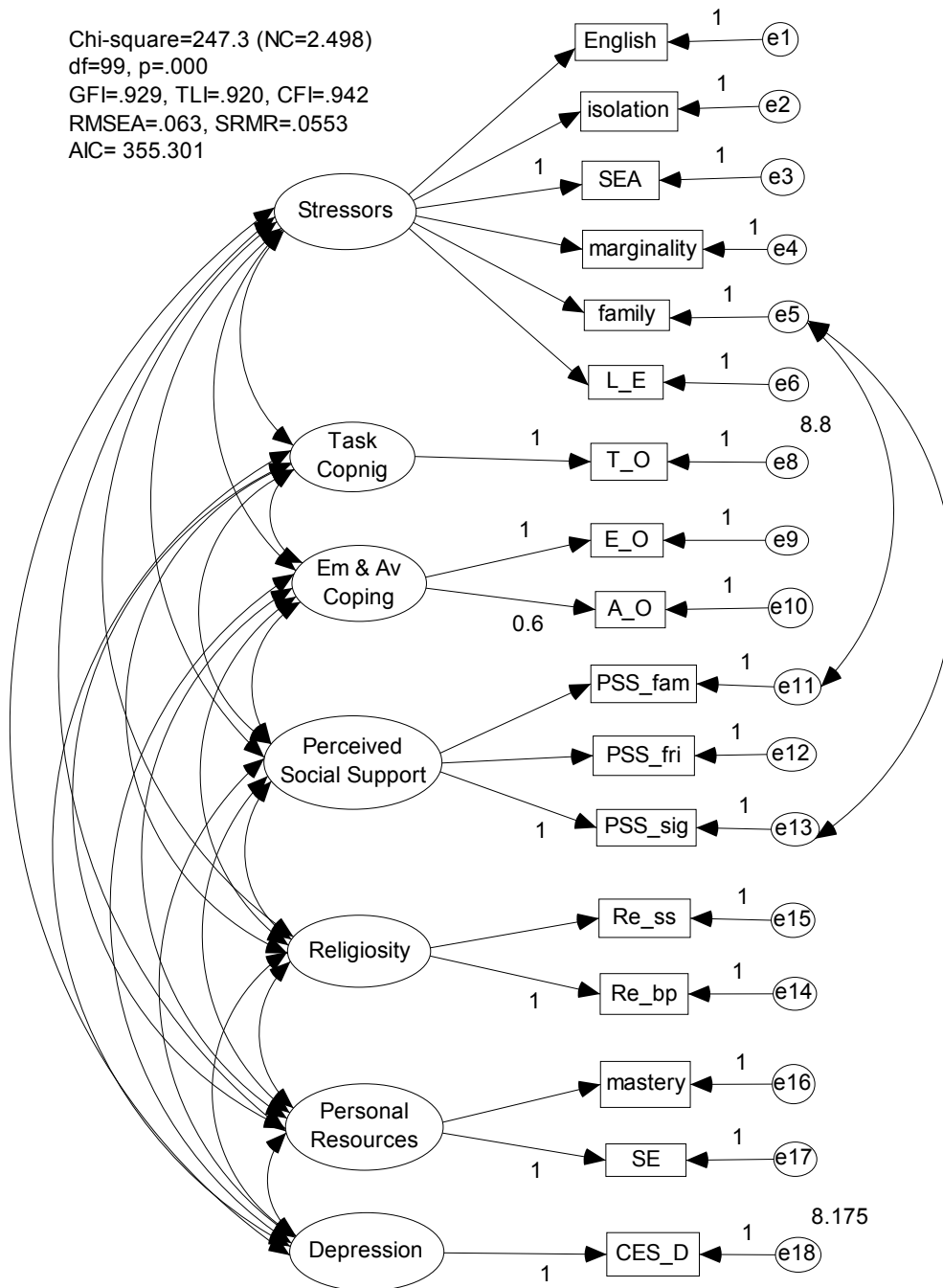


Figure 4.3 Modified Measurement Model.

3.3. Modified Measurement Model

After the respecification of the CFA model, the chi-square of the measurement model has decreased to 247.3 with 99 degrees of freedom and a probability of .000, and the normed chi-square to 2.498. Additional fit indices yield the following values: GFI of .929, TLI of .920, CFI of .942, RMSEA of .063, AIC of 355.301, and SRMR of .0553. Although the chi-square statistic is significant, the other fit indices show adequate model fit to the data. Generally, modification procedures significantly improved the overall model fit. The comparison of the fit statistics for the initial and modified measurement model is presented in Table 4.9

Table 4.9 Comparison of the Fit Statistics for the Initial and Modified Measurement Model

Fit statistics	Initial Measurement Model	Modified Measurement Model
χ^2	567.2	247.3
df	122	99
p	p = .000	p = .000
χ^2 /df	4.649	2.498
GFI	.857	.929
TLI	.798	.920
CFI	.839	.942
RMSEA	.099	.063
SRMR	.0938	.0553
AIC	665.184	355.301

Standardized and unstandardized estimates of the path coefficients for the CFA model were examined. In the unstandardized solution, path coefficients are interpreted as regression weights in multiple regression and error variances, which are unexplained variance of the corresponding endogenous variable, are estimated (Kline, 2005). The unstandardized estimates are used when researchers want to compare the absolute effects across different groups with different variances (Hair et al., 1998). In the standardized solution, all the variables have equal variance of 1.0 and the path coefficients correspond to the beta weights in regression. Since the standardized coefficients in SEM are based on standardized data, they are useful in comparing the relative importance across samples and scales.

Standardized and unstandardized path coefficients, error variances, and squared multiple correlations are presented in Table 4.10. The relationship between the factors and their corresponding indicators are significant and in the expected direction.

According to Tabachnick and Fidell (1996), loadings of .71 and higher are considered excellent, loadings of .63 to .70 are considered very good, loading of .55 to .62 are good, loadings of .45 to .54 are fair, loadings .32 to .44 are low, and loadings below than .32 are poor.

The standardized factor loadings from the stressors to the six indicators range from .31 to .77. The loading from stressors to English difficulties (.31) is poor; the one from stressors to life events (.43) is low; the one from stressors to sense of isolation (.53) is fair; the one from stressors to family relations (.64) is very good; and the ones from

stressors to sense of marginality (.75) and to socioeconomic adjustment (.77) are excellent.

The standardized loading from task coping to its single indicator of task-oriented coping (.96) is excellent. The loading from emotion and avoidance coping to emotion-oriented coping (.98) is excellent and to avoidance-oriented coping (.57) is good. The factor loadings from perceived social support to its three indicators range from .69 to .94, which are considered very good to excellent. The factor loading from religiosity to its two indicators are .90 and .96, which are considered excellent. The factor loadings from personal resources to mastery (.71) and self-esteem (.81) are both excellent. Lastly, the factor loading from depression to its single indicator of CES-D (.95) is excellent.

In addition, the squared multiple correlations (SMC or R^2) were examined. The squared multiple correlation equals to the square of the standardized coefficients in a CFA model and represents the proportion of explained variance of the observed variable. Like the standardized coefficients, R^2 in a CFA model is used to determine whether the observed variable is a good measure of a latent construct (Bollen, 1989). As shown in Table 4.10, R^2 values are, as expected, consistent with the corresponding standardized coefficients. Moreover, two pairs of the correlated error variances in the modified measurement model are presented in Table 4.10. Both covariances are statistically significant at the .05 level.

Table 4.10 Factor loadings, R^2 , and Error variances of the Measurement Model

CFA paths	Standardized coefficients	R^2	Unstandardized coefficients	Error variances
<u>Stressors</u>				
→ Social of isolation	.53	.28	.49***	7.14***
→ Socioeconomic adjustment	.77	.60	1.00 ^{nt}	7.80***
→ Sense of marginality	.75	.57	.73***	4.80***
→ Stress from Family relations	.64	.41	.55***	4.98***
→ English (language barrier)	.31	.10	.32***	11.48***
→ Life events	.43	.18	1.02***	53.58***
<u>Task Coping</u>				
→ Task-oriented coping	.96	.92	1.00 ^{nt}	8.80 ^{nt}
<u>Emotion/Avoidance coping</u>				
→ Emotion-oriented coping	.98	.96	1.00 ^{nt}	3.51 ^{ns}
→ Avoidance-oriented coping	.57	.32	.60 ^{nt}	67.31***
<u>Perceived Social Support (PSS)</u>				
→ PSS from family	.79	.63	.80***	3.81***
→ PSS from friends	.69	.48	.74***	6.12***
→ PSS from significant others	.94	.88	1.00 ^{nt}	1.40***
<u>Religiosity</u>				
→ Religious belief and practice	.96	.92	1.00 ^{nt}	6.54 ^{ns}
→ Religious social support	.90	.81	.51***	4.66*
<u>Personal Resources</u>				
→ Mastery	.71	.51	.64***	6.25***
→ Self-esteem	.82	.67	1.00 ^{nt}	7.86***
<u>Depression</u>				
→ CES-D	.95	.90	1.00 ^{nt}	8.18 ^{nt}
e5 ↔ e11	-.42		-1.85***	
e5 ↔ e13	-.50		-1.31***	

Note: *** $p < .001$, *: significant at .05 level, ns: not significant

nt (for unstandardized coefficients): not tested for statistical significance because they are fixed to 1.0 to scale a factor.

nt (for error variance): not tested for statistical significance because they are constant.

3.4. Structural Model

The structural model of this study is presented in Figure 4.4. The structural model consists of both the measurement part and structural part of the model. In the current study, a test of the structural model provided a chi-square (χ^2) value of 272.2 with 102 degrees of freedom (df) and a probability of .000, indicating the model does not fit the data adequately. The normed chi-square ($NC = \chi^2 / df$) value is 2.669, which is larger than the conservative rule of 2.0, but smaller than 3.0. The other fit indices yield the following values: GFI of .923, TLI of .911, CFI of .933, RMSEA of .067, AIC of 374.197, and SRMR of .0575. The results of fit statistics are presented in Table 4.11.

Table 4.11 Fit Statistics of the Structural Model

Fit statistics	Values	Interpretation
χ^2	272.2	Not adequate fit
df	102	
p	p = .000	
χ^2 / df	2.669	Reasonable fit
GFI	.923	Adequate fit
TLI	.911	Adequate fit
CFI	.933	Adequate fit
RMSEA	.067	Reasonable fit
SRMR	.0575	Good fit
AIC	374.197	

The collection of fit indices yielded mixed support for the model. While the model chi-square yielded statistical significance which rejects the null hypothesis that the structural model fits the data, GFI, TLI, CFI, and RMSEA showed adequate fit, and SRMR showed a good fit of the model to the data. Unlike other multivariate techniques, SEM puts little emphasis on the significance testing because the focus is on the goodness-of-fit, which is a question of association, not of significance (Garson, 2007; Keith, 2006; Kline, 2005). The primary purpose of SEM is to determine if one model conforms to the data better than the competing or alternative models (Garson, 2007). Moreover, the chi-square test in SEM can be misleading because more complex models are more likely to have a better fit and models with larger samples are more likely to reject the model (more Type II error). Therefore, even with the significant value of the chi-square statistic, this model is considered to reasonably conform to the data based on the other fit indices.

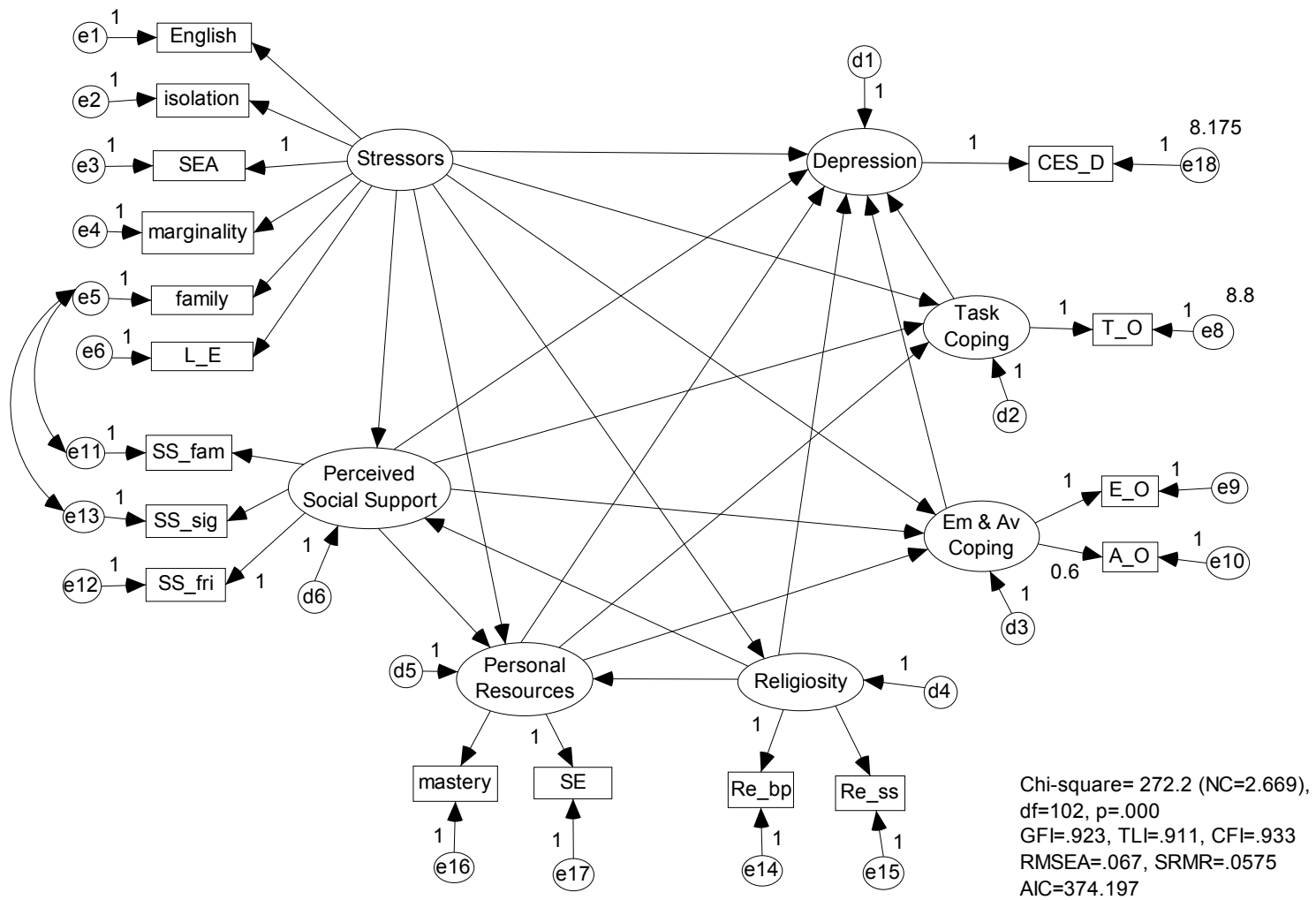


Figure 4.4 Structural Model.

Table 4.12 Path Coefficients of the Structural Model

Structural paths	Standardized coefficients	Unstandardized coefficients	S.E.	C.R.
<u>Stressors</u>				
→ Depression	.19*	.47**	.150	3.136
→ Task Coping	.11*	.33 ^{ns}	.207	1.598
→ Emotion/Avoidance coping	.19**	.53**	.177	3.014
→ Religiosity	-.09 ^{ns}	-.23 ^{ns}	.152	-1.531
→ Personal Resources	-.36**	-.42***	.051	-5.292
→ Perceived Social Support	-.40**	-.28***	.044	-6.221
<u>Perceived Social Support</u>				
→ Depression	-.04 ^{ns}	-.14 ^{ns}	.216	-.654
→ Task Coping	.24*	1.04***	.280	3.731
→ Emotion/Avoidance coping	.21*	.82***	.241	3.417
→ Personal Resources	.40*	.68***	.072	5.988
<u>Personal Resources</u>				
→ Depression	-.43*	-.89***	.311	-4.542
→ Task Coping	.33*	.82***	.312	4.183
→ Emotion/Avoidance coping	-.61*	-1.43***	.293	-7.738
<u>Religiosity</u>				
→ Depression	-.09*	-.09*	.044	-1.996
→ Perceived Social Support	.15*	.04**	.014	2.871
→ Personal Resources	-.14*	-.06**	.016	-2.594
<u>Task Coping</u>				
→ Depression	-.04 ^{ns}	-.03 ^{ns}	.042	-.743
<u>Emotion/Avoidance Coping</u>				
→ Depression	.19 ^{ns}	.17**	.059	2.794
e5 ↔ e11	-.42**	-1.83***	.324	-5.695
e5 ↔ e13	-.48*	-1.29***	.297	-4.338

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, ns: not significant

Bootstrapping was used to test significance of the standardized coefficients.

Table 4.12 presents path coefficients, standard errors, and critical ratios of the structural model. Structural path coefficients, both standardized and unstandardized, are interpreted in the same way as factor loadings (path coefficients) of the CFA model. For example, the unstandardized estimate of the direct effect of the stressors factor on the depression factor is .47, meaning that 1-point increase on the latent stressors variable predicts a .47-point increase on the latent depression variable, when controlling for the other variables. Since not all the measured variables in the model are based on the same scale, different variables in an unstandardized solution cannot be directly compared.

However, structural path coefficients in a standardized solution can be used to compare the relative importance of the variables across scales and samples. For example, the standardized estimate of the direct effect of stressors on depression is .19, meaning that for each standard deviation (SD) change in the stressors factor, depression would increase by .19 of a standard deviation, all other things being equal. Likewise, the standardized direct effect of stressors on perceived social support is -.40, which means for each SD change in the latent stressors variable, perceived social support would decrease by .40 of SD, with all other things being equal. The magnitude of the standardized direct effect of stressors on perceived social support is about twice as much as that on depression in the opposite direction, when controlling for other variables. Both effects (.19 and -.40) are statistically significant based on bootstrap estimation. Bootstrapping was used in this study to test significance of standardized coefficients (Arbuckle, 2005; ITS, 2004; Hancock & Nevitt, 1999). Bootstrap-based estimates of the

standardized coefficients are very close to the original ML estimates. Both standardized and unstandardized solutions for the structural model are presented in Figure 4.5 and 4.6.

Table 4.13 presents the squared multiple correlations (R^2) of the five latent variables in the structural model. In the structural model, R^2 represents the proportion of variance of a latent variable that is explained by its predicting latent variables. For example, 52.4% of the total variance in the latent depression variable is explained by its six predicting factors: stressors, perceived social support, personal resources, religiosity, emotion/avoidance coping, and task coping. Moreover, 20.3 % of the total variance in task coping factor and 41.4% of the total variance in emotion and avoidance factor is explained by its three predicting factors: stressors, perceived social support, and personal resources. Likewise, 39.1 % of the variance in personal resources is explained by the three factors: stressors, social support and religiosity. Also, 19.3% of the variance in perceived social support is explained by stressors and religiosity. Only 0.8 % of the variance in religiosity is explained by stressors, but it is statistically significant based on bootstrap estimation.

Table 4.13 Squared Multiple Correlations (R^2) of the Latent Variables in the Structural Model

Latent Variables	R^2
Depression	.524
Task Coping	.203
Emotion/Avoidance Coping	.414
Religiosity	.008
Personal Resources	.391
Perceived Social Support	.193

Note: All the R^2 values are statistically significant at .05 level.

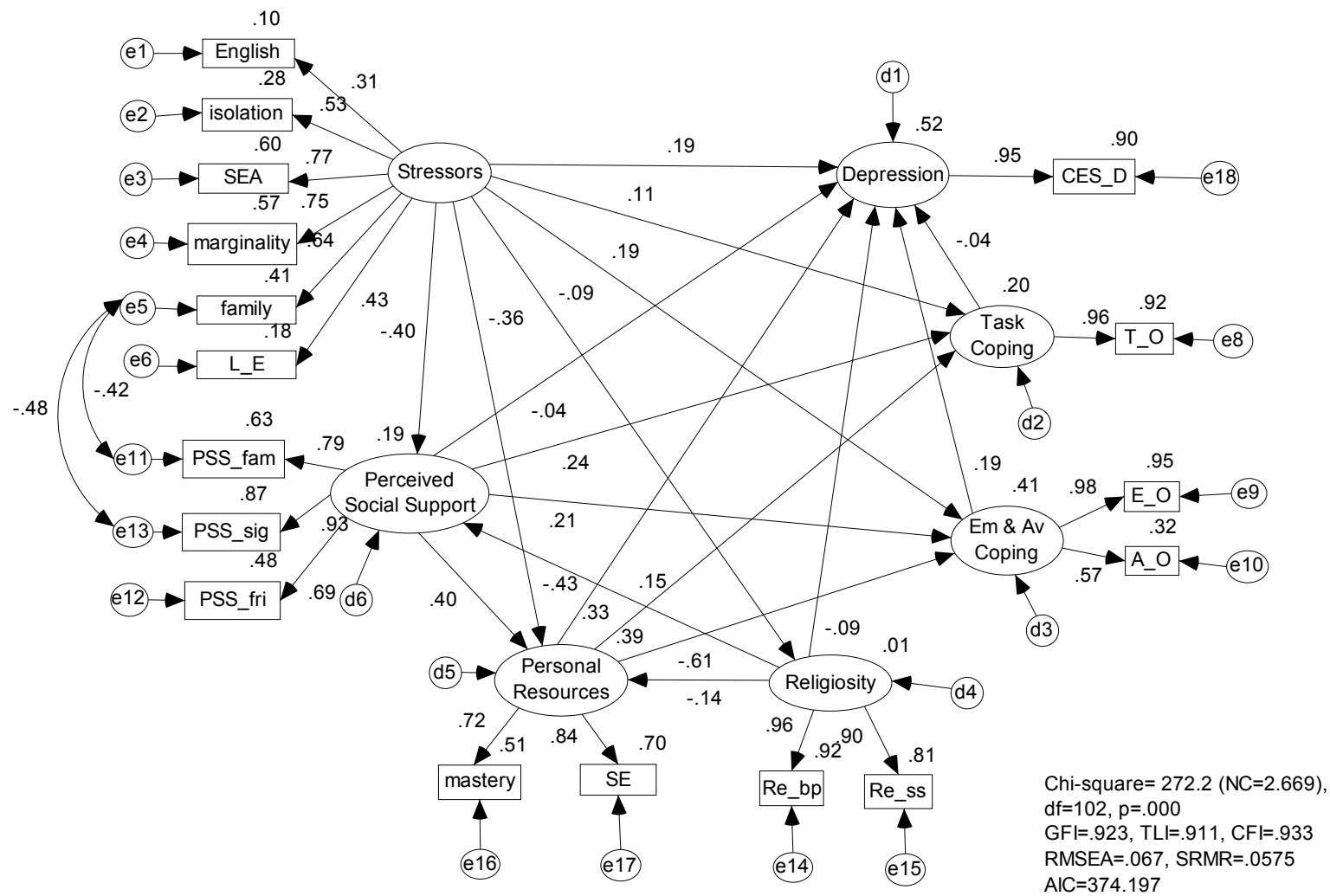


Figure 4.5 Standardized Solution of the Structural Model.

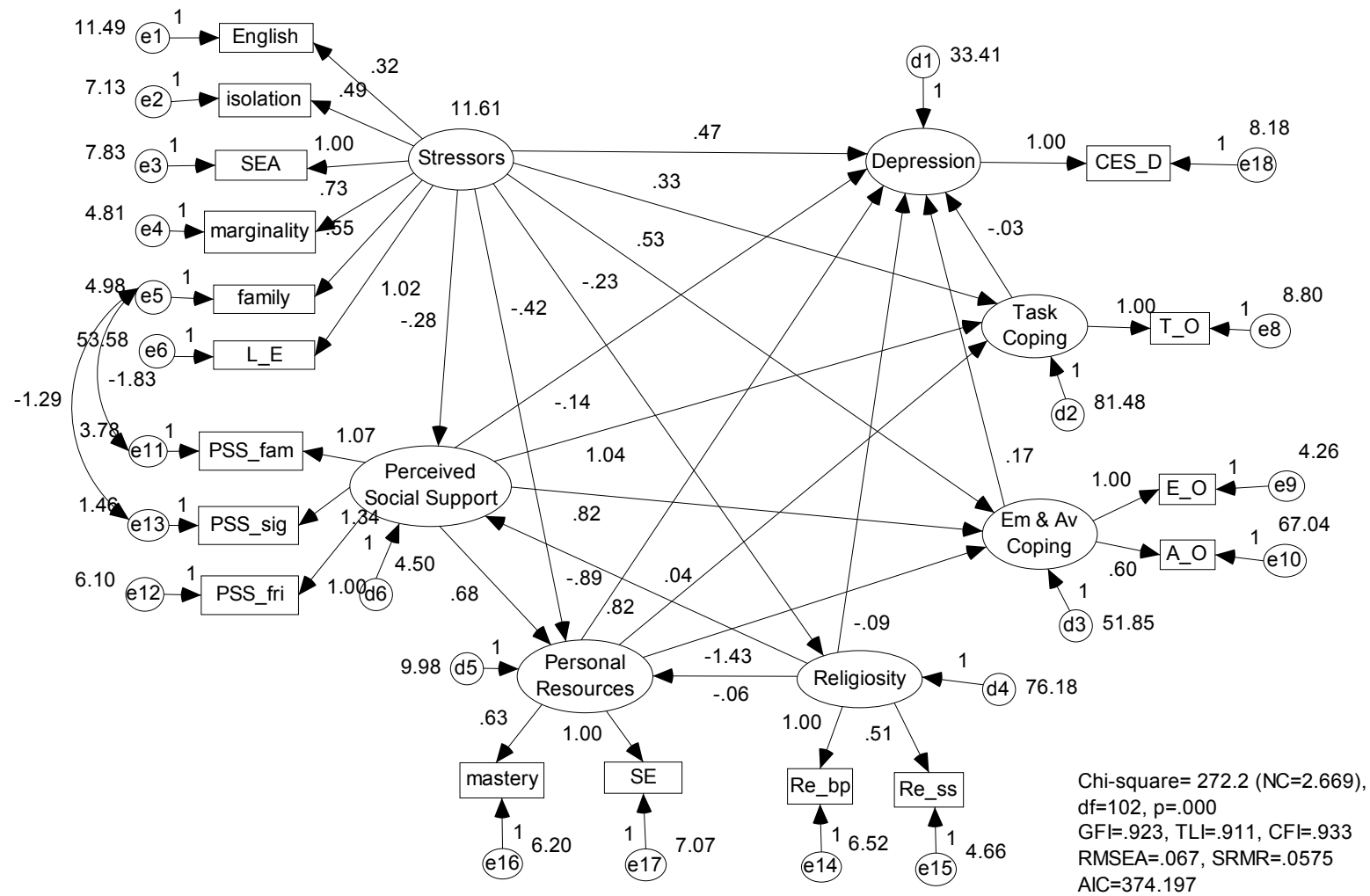


Figure 4.6 Unstandardized Solution of the Structural Model.

3.5. Summary of Direct, Indirect, and Total Effects

Structural path coefficients are interpreted as the effects of one latent variable on another. Table 4.14 presents the summary of the standardized direct, indirect, and total effects for the structural model. Indirect effects are estimated as the product of direct effects that comprise them, and total effects are the sum of all direct and indirect effects. For example, the standardized indirect effect of stressors on perceived social support through religiosity is estimated as the product of the standardized coefficients for the paths from stressors to religiosity (-.091) and from religiosity to perceived social support (.152). The result value of -.014 is interpreted as follows: the level of perceived social support is expected to decrease by .014 standard deviations for one standard deviation increase in stressors through its mediating effect on religiosity. The standardized total effect of stressors on perceived social support is the sum of its standardized direct effect (-.398) and indirect effect through religiosity (-.014), which is -.412.

Kline's (2005) guidelines of interpreting an effect were used in this study. Based on Cohen's effect size criteria, Kline (2005) interprets standardized path coefficients with absolute values less than .10 as small effects, values around .30 as medium effects, and absolute values .50 or higher as large effects. In this model, the direct effect of stressors on perceived social support (-.398) is considered medium and its indirect effect through religiosity (-.014) is close to zero, thus its total effect (-.412) is about the same as the direct effect. Bootstrapping was requested to test statistical significance of direct, indirect and total effects and the results are presented in Table 4.14.

Table 4.14 Effects Decomposition: Standardized Direct, Indirect, and Total Effects

Causal Variables	Effects	Endogenous variables					
		Depression	Emotion/ Avoidance Coping	Task Coping	Personal Resources	Perceived Social Support	Religiosity
Stressors	<i>Direct</i>	.192*	.193**	.111*	-.357**	-.398**	-.091 ^{ns}
	<i>Total Indirect</i>	.327**	.227**	-.268*	-.151**	-.014 ^{ns}	
	<i>Total</i>	.519**	.420**	-.156*	-.508**	-.412 **	-.091 ^{ns}
Religiosity	<i>Direct</i>	-.092*			-.140*	.152*	
	<i>Total Indirect</i>	.043 ^{ns}	.081 ^{ns}	.011 ^{ns}	.060*		
	<i>Total</i>	-.049 ^{ns}	.081 ^{ns}	.011 ^{ns}	-.080 ^{ns}	.152*	
Perceived Social Support	<i>Direct</i>	-.040 ^{ns}	.207*	.243*	.397*		
	<i>Total Indirect</i>	-.191*	-.244*	.131**			
	<i>Total</i>	-.231*	-.037 ^{ns}	.374*	.397*		
Personal Resources	<i>Direct</i>	-.430*	-.615*	.329*			
	<i>Total Indirect</i>	-.127 ^{ns}					
	<i>Total</i>	-.556*	-.615*	.329*			
Task Coping	<i>Direct</i>	-.038 ^{ns}					
	<i>Total Indirect</i>						
	<i>Total</i>	-.038 ^{ns}					
Emotion/ Avoidance Coping	<i>Direct</i>	.186 ^{ns}					
	<i>Total Indirect</i>						
	<i>Total</i>	.186 ^{ns}					

Note: ** p < .01, *p < .05, ns: not significant
 Bootstrapping was used to test significance of effects.

Stressors have a stronger indirect effect (.327, $p < .01$) than direct effect (.192, $p < .05$) on depression through five other mediating variables in the model. Similarly, stressors have stronger indirect effects than direct effect on two coping factors through perceived social support and personal resources: the indirect effects of stressors on emotion/avoidance coping (.227, $p < .01$) and task coping (-.268, $p < .05$) are moderate, and the direct effects of stressors on emotion/avoidance coping (.193, $p < .01$) and task coping (.111, $p < .05$) are small, but significant. On the other hand, stressors have stronger direct effect than indirect effect on personal resources and perceived social support: the direct effects of stressors on personal resources (-.357, $p < .01$) and perceived social support (-.398, $p < .01$) are medium, and the indirect effects of stressors on personal resources (-.151, $p < .01$) and perceived social support (-.014, not significant) are small. Also, stressors have a small insignificant direct effect on religiosity, and have no indirect effect.

Religiosity has small, but significant direct effects on depression (-.092, $p < .05$), personal resources (-.140, $p < .05$), and perceived social support (.152, $p < .05$), but no direct effects on emotion/avoidance coping and task coping. Through perceived social support and personal resources, religiosity has small, insignificant indirect effects on the following three latent variables: on depression (.043), on emotion/avoidance coping (.081), and task coping (.011). The indirect effect of religiosity on personal resources through social support is also very small, but significant (.060, $p < .05$). And, there is no indirect effect of religiosity on perceived social support.

Perceived social support has small insignificant direct effect on depression (-.040) and small, but significant indirect effect on depression (-.191). The direct effects of perceived social support on emotion/avoidance coping (.207, $p < .05$) and on task coping (.243, $p < .05$) are moderate. Through personal resources, perceived social support has indirect effects on emotion/avoidance coping (-.244, $p < .05$) and on task coping (.131, $p < .01$). In addition, there is a quite strong direct effect of perceived social support on personal resources (.397, $p < .05$), but no indirect effect.

The variable personal resources has substantial direct effects on depression (-.430, $p < .05$), emotion/avoidance coping (-.615, $p < .05$), and task coping (.329, $p < .05$). However, its indirect effect on depression through task coping and emotion/avoidance coping is small and insignificant (-.127). Furthermore, it does not have an indirect effect on emotion/avoidance coping and task coping.

Neither task coping nor emotion/avoidance coping have significant effects on depression. Task coping has a very small effect on depression (-.038), but it is not significant. Likewise, emotion/avoidance coping has a small direct effect on depression (.186), but it is not significant. Neither of them have an indirect effect on depression.

4. RESEARCH QUESTIONS & HYPOTHESES TESTING

4.1. Research Questions

In the following section, each research question is reviewed and the relevant statistical evidence examined.

Research question 1: What is the relationship between stressors and depression among Korean immigrants?

In the two factor model in which only stressors and depression are included, the relationship between stressors and depression is pretty strong. The standardized direct effect of stressors on depression (.519, $p=.004$) is large and statistically significant. Also, the squared multiple correlation of depression (R^2) is .270, meaning that 27.0% of the total variance in depression is explained by the stressors. This R^2 value is statistically significant ($p=.004$).

Research question 2: Are the effects of stressors on depression significant after taking into account such mediating variables as coping, perceived social support, personal resources, and religiosity?

When perceived social support, personal resources, task coping, emotion/avoidance coping, and religiosity are added into the model as mediating variables for the relationship between stressors and depression, the direct effect of stressors on depression (.192, $p=.013$) becomes smaller, but it is statistically significant. In the seven factor model, the stressors have indirect effects on depression through the

mediating variables, and the total indirect effects of stressors on depression (.327, $p = .009$) are medium and statistically significant. Therefore, the total effects of stressors on depression (.519, $p = .004$), which are the sum of direct and indirect effects, equal the direct effect of stressors on depression in the two factor model.

Moreover, in this seven factor model, 52.4% of the total variance in the latent depression variable is explained by stressors and five mediating variables: perceived social support, personal resources, task coping, emotion/avoidance coping, and religiosity. This increased value of squared multiple correlation ($R^2 = .524$, $p = .049$) implies that the relationship between the stressors and depression are better explained by the model with the mediating variables.

The relationship between stressors and depression as well as the relationships between the mediating variables and depression in the seven factor model is examined in detail in the next section of hypotheses testing.

4.2. Hypotheses Testing

Hypothesis 1 posits the positive direct effect of stressors on depression, and this is supported by the data. There is a positive direct effect of stressors on depression (.192, $p < .05$) and it is statistically significant.

Hypothesis 2 posits the negative direct effect of stressors on perceived social support, and this is supported by the data. There is a negative direct effect of stressors on perceived social support (-.398, $p < .01$) and this is statistically significant.

Hypothesis 3 posits the negative direct effect of perceived social support on depression. This hypothesis is not supported by the data. Although there is a negative direct effect of perceived social support on depression ($-.040^{ns}$), it is very small and is not statistically significant.

Hypothesis 4 posits the indirect effect of stressors on depression through perceived social support. As expected, perceived social support mediates the relationship between stressors and depression through its negative association with stressors ($-.398$, $p < .01$) and negative association with depression ($-.040^{ns}$). However, this indirect effect ($.016$), which is the product of ($-.398$) and ($-.040$), is very small.

Hypothesis 5 posits a negative direct effect of task coping on depression, and is not supported by the data. Although there is a negative direct effect of task coping on depression ($-.038^{ns}$), it is very small and is not statistically significant.

Hypothesis 6 posits the positive direct effect of emotion and avoidance coping on depression. This hypothesis is not supported by the data. Although there is a positive direct effect of emotion and avoidance coping on depression ($.186^{ns}$), it is small and is not statistically significant.

Hypothesis 7 posits the indirect effect of stressors on depression through coping. Although there are indirect effects of stressors on depression through task coping ($-.004 = .111 (-.038)$) and through emotion/avoidance coping ($.036 = .186 (.193)$), these effects are very small.

Hypothesis 8 posits the negative direct effect of personal resources on depression, and this is supported by the data. There is a negative direct effect of personal resources on depression ($-.430, p < .05$), and this is quite strong and statistically significant.

Hypothesis 9 posits the indirect effects of stressors on depression through personal resources. As expected, there are mediating effects of stressors on depression through personal resources ($.153 = (-.357) (-.430)$), and it is larger than the indirect effects through any other mediators including perceived social support (.016), task coping ($-.004$), emotion and avoidance coping (.036), and religiosity (.008).

Hypothesis 10 posits the positive direct effect of stressors on religiosity. This hypothesis is not supported by the data. Although there is a direct effect of stressors on religiosity ($-.091^{ns}$), it is negative, contrary to the expectation, and it is small and not statistically significant.

Hypothesis 11 posits the negative direct effect of religiosity on depression, and this is supported by the data. There is a negative direct effect of religiosity on depression ($-.092, p < .05$), and it is statistically significant.

Hypothesis 12 posits the indirect effect of stressors and depression through religiosity. Although religiosity mediates the relationship between stressors and depression through its negative association with stressors ($-.091$) and with depression ($-.092$), this indirect effect, .008 (product of $-.091$ and $-.092$), is very small.

Hypothesis 13 posits the direct effect of perceived social support on coping. Specifically, hypothesis 13 incorporates two propositions: the positive direct effect of perceived social support on task coping and the negative direct effect of perceived social

support on emotion/avoidance coping. As expected, there is a positive direct effect of perceived social support on task coping (.243, $p < .05$), and this is statistically significant. Also, there is a statistically significant direct effect of perceived social support on emotion/avoidance coping (.207, $p < .05$), but it is positive, which is contrary to the expectation.

Hypothesis 14 posits the direct effect of perceived social support on personal resources, and this is supported by the data. There is a positive direct effect of perceived social support on personal resources (.397, $p < .05$), and this is quite strong and statistically significant.

Hypothesis 15 posits the direct effect of personal resource on coping. This hypothesis incorporates two propositions: the positive direct effect of personal resources on task coping and the negative direct effect of personal resources on emotion/avoidance coping. As expected, personal resources has a positive direct effect on task coping (.329, $p < .05$) and a negative direct effect on emotion/avoidance coping (-.615, $p < .05$), and these effects are both substantial and statistically significant.

Hypothesis 16 posits the positive direct effect of religiosity on perceived social support, and this hypothesis is supported by the data. There is a positive direct effect of religiosity on perceived social support (.152, $p < .05$), and it is small but statistically significant.

Hypothesis 17 posits the positive direct effect of religiosity on personal resources. This is not supported by the data. Although there is a statistically significant direct effect

of religiosity on personal resources (-.140, $p < .05$), this effect is negative, contrary to the expectation.

4.3. Alternative Model

Based on the significance testing of the standardized effects, small and insignificant effects are considered for deletion for alternative models. For example, the direct effect of stressors on religiosity is small and insignificant. The direct effect of stressors on religiosity is also small and insignificant. In addition, the direct effects of task coping and emotion/avoidance coping on depression are very small and insignificant. Therefore, these four paths are constrained to zero in the alternative model.

Since the alternative model is nested in the initial structural model, the two models are hierarchically related. Therefore, the chi-square difference can be used to test the statistical significance of the decrement in overall fit. Table 4.15 compares the fit statistics of the initial structural model and the alternative model.

In the alternative model, the model chi-square (χ^2) increased to 281.2 with 106 degrees of freedom (df) and a probability of .000. The chi-square difference between the initial structural model and the alternative model is not significant at the .05 level (chi-square difference of 9 with 4 degrees of freedom). Thus, the overall fit of the alternative model is not significantly worse than that of the original model. The normed chi-square ($NC = \chi^2 / df$) value is 2.653, which is slightly smaller than the original value of 2.669. Additional fit indices provide a very similar model fit: GFI of .920, TLI of .912, CFI of .931, RMSEA of .067, AIC of 375.249, and SRMR of .0591. Therefore, model

trimming is effective and the alternative model is a parsimonious model that fits the data reasonably well. The alternative model is presented in Figure 4.7.

Table 4.15 Comparison of Fit Statistics for Initial Structural Model and Alternative Model

Fit statistics	Initial Structural Model	Alternative Model
χ^2	272.2	281.2
df	102	106
p	p = .000	p = .000
χ^2 /df	2.669	2.653
GFI	.923	.920
TLI	.911	.912
CFI	.933	.931
RMSEA	.067	.067
SRMR	.0575	.0591
AIC	374.197	375.249

However, model trimming driven by empirical criteria of statistical significance can be another cause of Type II error (Kline, 2005). The paths that are insignificant in this model may apply only to the particular sample of the current study. Although the substantial effects were not found for the sample of the initial model, the four paths which are constrained to zero in the alternative model have been supported by the literature. Therefore, it is concluded to retain the following four paths: from stressors to religiosity, perceived social support to depression, task-coping to depression, and emotion/avoidance coping to depression.

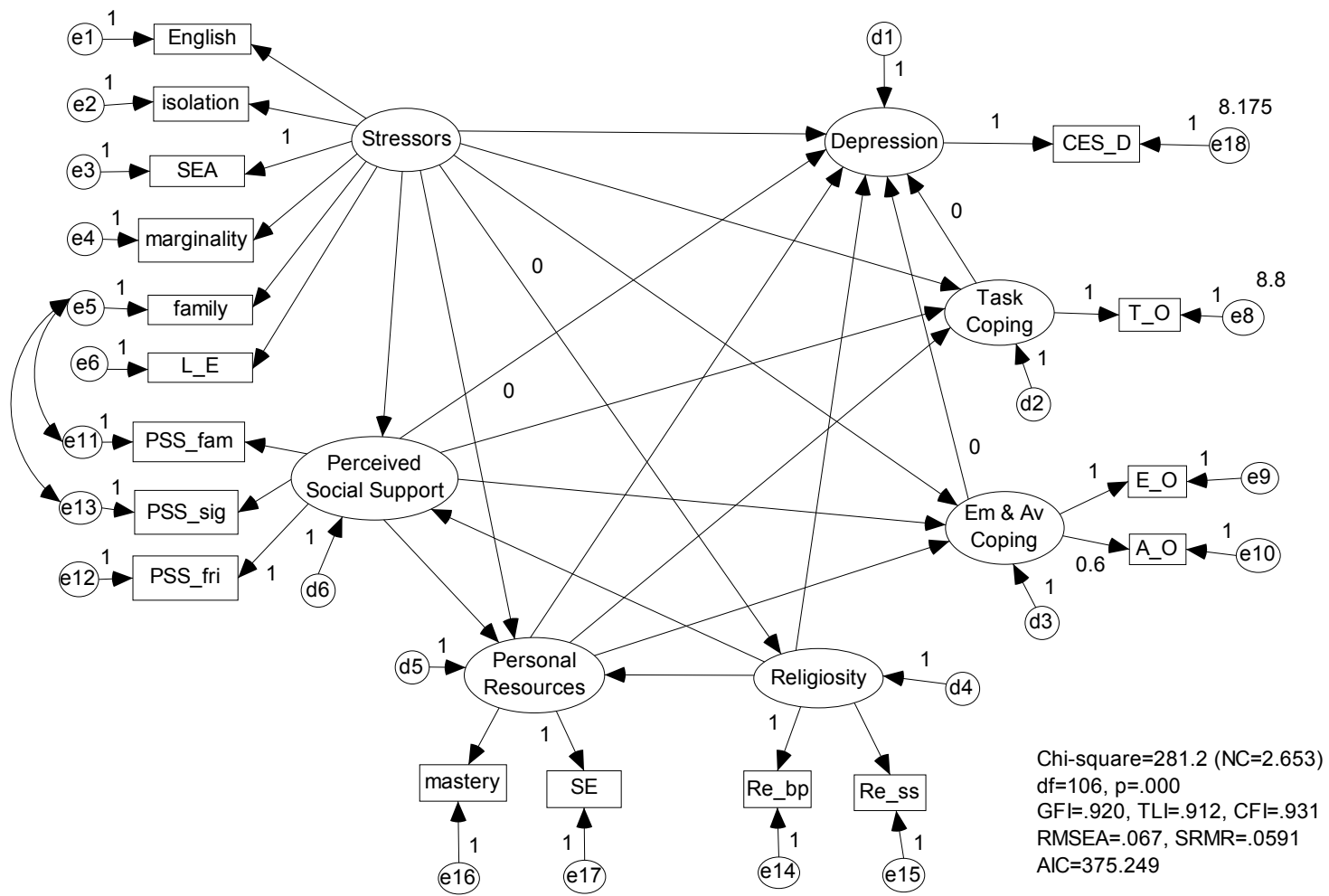


Figure 4.7 Alternative Model.

CHAPTER V

DISCUSSION

This chapter discusses the findings of the analyses. First, the results of preliminary analysis for the sociodemographic variables are discussed in terms of their associations with depression. Second, the findings of Structural Equation Modeling (SEM) analyses are discussed in terms of the substantial effects or lack of the expected effects. Third, limitations of the study are discussed. Finally, implications for social work practice, research, theory, policy, and education are discussed.

1. DISCUSSION

1.1. Discussion for Sociodemographic Findings

This study consists of 374 Korean adults in Austin, Texas who migrated to the U.S. at the age of 16 or older. Sociodemographic analyses of the sample of Koreans in Austin reveal the dissimilar findings in age distribution to those reported in the previous survey results of Koreans. For example, the mean age in the current study is 37 years, with the majority (75.9%) in the range of 28 to 41 years. On the other hand, the mean age of the sample of Koreans in Chicago (Hurh & Kim, 1990a, 1990b) is 42 years, with the majority (78.7%) in the range of 30 to 59 years. And the mean age of the sample of Koreans in Toronto (Noh et al., 1992, 1996) is 45 years, with the majority (55.3%) in the age of 36 to 55 years. Compared to these prior results, the sample of current study is on the average 5 years younger than the Chicago sample and 8 years younger than the Toronto sample.

The age of migration of the current sample is comparable to that of Koreans in Toronto (Noh et al., 1992, 1996). The majority (72.2%) of the sample in Austin migrated to the U.S. between the ages of 23 and 34, similar to the proportion (69%) of the sample in Toronto who migrated to Canada between the ages of 26 and 35. This result is not far from the expectation because both studies had the same sampling criteria for age constraint, which is 16 years or older.

On average, the respondents of this study have lived in the U.S. for 8.5 years, with the majority (77.0%) 10 years or less. Similarly, the respondents of the Chicago sample

(Hurh & Kim, 1990a, Kim & Hurh, 1993) had lived in the U.S. for 8 years on the average, while those of the Toronto sample (Noh et al., 1992) had lived in Canada for 12 years and those of the Detroit sample of Koreans (Hyun, 2001) had lived in the U.S. for 16 years.

Almost equal representation of male (52.4%) and female (47.6%) respondents in the sample is compatible with that reported in the previous studies. In Hurh and Kim's (1990a, 1990b) sample of Koreans in Chicago, male subjects constituted 53% and female subjects 47%. And, in Noh and his colleagues' (1992, 1996) sample of Koreans in Toronto, male respondents constituted 54% and female respondents constituted 46%.

The proportion of the married respondents is also comparable to the prior studies. In Austin sample, 78.3% of respondents are married. By gender, 70.4% male and 87.1% female respondents are married. Similarly, 84% of the Chicago sample (Hurh and Kim, 1990a, 1990b) were married and 83% of the Toronto sample (Noh et al., 1992a, 1992b, 1992c, 1996) were married.

As expected, the sample for this study had higher level of education than the previous studies of Korean samples. Most of the respondents (88.5%) completed college or higher education, while 58.5% of the Chicago sample (Hurh & Kim, 1990a; Kim & Hugh, 1993), 52.6% of the Toronto sample (Noh et al., 1992), and 66% of the Detroit sample (Hyun, 2001) completed post secondary education. More interestingly, about equal proportions of male respondents (89.8%) and female respondents (87.1%) in this study completed higher education, while more males than females completed college or higher education in the previous survey results of Koreans (47.4% vs. 25.5% in Kim & Grant's 1997; 60% vs. 44% in Noh et al., 1996).

The remarkably high level of education in the sample of this study can be explained by reasons for the increase of Korean population in the Austin area. The top known reason for the rapid increase of Korean population in Austin is the pursuit of higher education at the colleges or universities, and a second reason is the influx of well-educated workers for Austin IT companies. Another possible explanation for the high level of education is that the relatively low-educated may be underrepresented in this study due to the sampling method which relies on available subjects.

Distribution of the employment status for the sample of this study is another finding that is not compatible with that reported in the previous studies. In this study, about half of the male participants (52.6%) and one quarter of female participants (22.5%) are employed full-time, while a much higher proportion of males (80.5%) and females (67.6%) in the Toronto sample and the Chicago sample (about 60% of both males and females) are reported to have been employed or run their own business. Another unique finding of this study is the high proportion of students in the sample: 42.3% of the male respondents and 16.8% of the female respondents are college or graduate students.

The relatively low proportion of full-time employees in the sample can be explained by the relatively high proportion of students. In addition, a much higher proportion of female employees in the Toronto sample (67.6%) and Chicago sample (60%) than that of the Austin sample (22.5%) can be explained by the high proportion of business runners in the Chicago and Toronto sample. Hurh and Kim (1990a) reported that their respondents are overrepresented in the field of small business (30.2%). Studies have

reported that Korean women in the U.S. usually have dual roles as a typical homemaker as well as a bread winner, and this is particularly the case when their family has their own business.

In survey studies of immigrants, level of acculturation or social/cultural adaptation is used as one of the major control variables. The theoretical rationale for including an acculturation factor is based on the many empirical investigations that indicate the significant effect of acculturative stress or adjustment difficulties on the mental health of international migrants (Berry & Kim, 1987; Hurh & Kim, 1988).

The relationship between depression and some of the acculturation related variables in the study are not consistent with those reported in the previous study. For example, Hurh and Kim (1990a) found that having more Korean friends significantly related to the mental health of both male and female subjects. However, having more Korean friends is not a significant correlate of depression for both male and female respondents in this study. Also, women with higher level of English proficiency experience less depression in Hurh and Kim's (1990a) study, while level of English proficiency is a significant depression correlate only for male respondents in the current study. However, the length of U.S. residence is positively related to English proficiency in this study, which is consistent with the findings reported by Kim and Hurh (1993).

Religiosity has been an important variable in understanding the mental health of Koreans in the U.S. Consistent with much survey research, which has indicated a high rate of church affiliation among Koreans in the U.S., the majority of the respondents (71.9%, n=269) of the study identified themselves as Protestant Christian, and most of

the respondents (86.3%, n=323) reported that their religious/spiritual beliefs are “*somewhat or very important*” to them. These findings are very consistent with those reported in Kim’s (1980) study in which 71% of the Korean immigrants in Chicago were affiliated with Korean Christian churches and in Hurh and Kim’s (1990a, 1990b) studies in which 69.9% of the LA sample and 76.8% of the Chicago sample were affiliated with Korean ethnic churches.

However, regardless of the high rate of church affiliation and subjective importance of religious/spiritual beliefs, they are not significantly related to depression. This may be because religiosity is directly related with depression, but did not mediate the relationship between stressors and depression. Another possible explanation is that, considering the relatively low rate of church affiliation in Korea and the sharp increase in the rate upon migration (Hurh & Kim, 1990; Kim & Hugh, 1993), Koreans may rely on their ethnic church more for their adjustment needs and cultural maintenance than for spiritual needs.

1.2. Discussion for Preliminary Analysis

The major focus of the preliminary analysis is on the level of depression in the sample and the significant depression correlates among the sociodemographic variables. One of the most striking findings of this study is the high level of depressive symptoms experienced by the sample. The respondents of this study on average experience higher levels of depressive symptoms ($M=15.7$, $SD=8.9$) than in Hurh and Kim’s (1988, 1990a) Chicago sample ($M=12.6$). Also, the current study sample experience on average a higher

level of depression than any of the five ethnic groups in Kuo's (1984) Seattle sample: 14.4 for Koreans, 6.9 for Chinese, 7.3 for Japanese, 9.7 for Filipinos, and 8.0 to 9.4 to White respondents.

Unlike many of the research findings that have indicated that women are more depressed than men (Kiefer et al., 1985; Noh, Wu, et al., 1992), there is no significant gender difference in the rate of depression in this study. However, this finding is consistent with Hurh and Kim's (1990a) sample, where the mean difference of CES-D score for men (12.3) and for women (12.9) was negligible. In addition, unlike the previous research findings that reported that married respondents are significantly less depressed than unmarried respondents regardless of gender (Hurh & Kim, 1990a; Kim & Hurh, 1993), marital status is not a significant depression correlate for the female respondents of this study.

Employment has been known to be an important correlate of depression in the prior studies, suggesting that the employed are significantly less depressed than the unemployed (Hurh and Kim, 1990a). Moreover, employment and work related variables have been known to be one of the strongest correlates of mental health among men (Hurh and Kim, 1990a). Contrary to these findings, employment status is not a significant depression correlate, regardless of gender. Unique to this study is a large proportion of students respondents (30.2%, N=113). Comparing the employed and the unemployed with the students, interesting results are found: for males, students are on average the least depressed, but for females, students are the most depressed. This is consistent

regardless of their marital status (56.6% of the male students and 60.0% of the female students are married).

Different studies found different depression correlates. Variables such as age, gender, and employment status have been found to be related with depression in several studies (Hurh and Kim, 1990a; Kuo & Tsai, 1986; Noh et al., 1992), but not in this study. Also, length of U.S. residence is known to be related with depression (Hurh and Kim, 1990a; Kuo & Tsai, 1986; Noh et al., 1992), which is consistent with the findings of this study. However, this significance is dropped when acculturation is added as a mediating variable. This finding can be compared with those in Noh & Avison (1996), in which significant associations between length of residence and depression in the cross-sectional study was dropped in the second wave of the longitudinal study. In addition, such variables as employment status, number of children, and importance of religion that have been found to be significant correlates of depression in previous research (Hurh & Kim, 1990a; Noh & Avison, 1996)) are not significantly related to depression in this study. Moreover, level of education and household income have been found to be significantly related to depression in the literature (Noh et al., 1992, 1998), but, in this study only level of education is significantly related to depression through level of acculturation.

1.3. Discussion for SEM Analysis

The major interest of this study is to understand the stress process, particularly the relationship between stressors and depression among Korean immigrants. Another area of interest is to examine whether the stressors are really detrimental to the mental health of

Korean immigrants even after the various mediating factors are taken into account. Applying the stress process paradigm (Folkman & Lazarus, 1986; Lazarus & Folkman, 1984, 1990) to the experience of Korean immigrants allows us to determine whether the stress process is applicable to the Korean immigrants. Based on the SEM analysis, there are several points that deserve some discussion.

Stressors are significantly related to depression in the experience of Koreans in Austin. With all the mediating variables controlled, the direct effect of stressors on depression is very strong (.519, $p = .004$). Further, stressors explain 27.0% of the total variance in depression. With all the mediating variables taken into account, the direct effect of stressors on depression decreases (.192, $p = .013$), but is still significant. This finding that there is a significant direct effect of stressors on depression, is consistent with those reported in the prior research (Avison, 1993; Cohen & Williamson, 1991; Coyne & Downey, 1991; Turner & Avison, 1992).

With all the mediating variables taken into account, the stressors now have indirect effects through these mediating variables. The total indirect effect of stressors on depression through these mediating variables (.327, $p < .01$) is much larger than its direct effect. The total effects (.519, $p < .01$) are the same as the direct effect in the two factor model, but now stressors and five mediating variables explain 52.4% of the total variance in depression, which is about twice as much variance as the two factor model. This implies that the relationship between stressors and depression is better explained by the seven factor model. Therefore, mediating variables play crucial roles in understanding the stress process among Koreans.

Among the mediating variables, personal resources have the strongest effects on depression (total effect= $-.556$, $p < .05$), meaning mastery and self-esteem together substantially influence the reduction of depression. Interestingly, the direct effects of personal resources on depression ($-.430$, $p < .05$) is strong, but the indirect effect is not. This implies that mastery and self-esteem directly influence the alleviation of depression in Korean immigrants, but they do not buffer the effects of stressors on depression. The study findings that show direct, but no indirect, effects of mastery or self-esteem on depression are consistent with Hobfoll and Walfisch's (1986) study of Israeli women. However, these findings are not consistent with many other research studies that addressed both direct and indirect effects of personal resources on depression (Andrews & Brown, 1993; Fennell, 2004; Jang et al., 2002; Kuo & Tsai, 1986; Lu & Wu, 1998; Penninx et al., 1997; Moritsugu & Sue, 1983; Rosenberg, 1985; Turner & Rozwell, 1994).

Another interesting finding is that personal resources have a significant and substantial direct effect on both task ($.329$, $p < .05$) and emotion/avoidance coping ($-.615$, $p < .05$), but no indirect effect on depression through these coping variables. The study respondents with higher level of mastery and self-esteem are more likely to use task coping and less likely to use emotion/avoidance coping. However, regardless of the coping strategies that they use, personal resources do not influence depression through any of these coping strategies. This finding is quite surprising because many studies indicated that high level of mastery and self-esteem not only directly reduces psychological disturbances but also buffer the negative effects of stressors by promoting

effective coping (Fennell, 2004; Jang, 2002; Mirowsky & Ross, 1989; Turner & Rozwell, 1994).

It is very surprising to find that there are no effects of coping in the stress process of Koreans in Austin. Unlike previous research findings that reported those who use active, problem-focused, or task-oriented coping experience fewer depressive symptoms and those who use avoidance- or emotional-oriented coping experience more depressive symptoms (Bruder-Mattson & Hovanitz, 1990; Haghighatgou & Peterson, 1994; Rhode et al., 1990; Sherbourne et al., 1995), the coping strategies of the respondents in the current study do not substantially influence level of depression. In addition, coping does not mediate the impact of stressors on depression or the impact of personal resources on depression in the experience of Koreans. These findings are not consistent with many studies that reported coping as an important mediator of depression in stressful situations (Endler & Parker, 1990a; Folkman & Lazarus, 1986; Haghighatgou & Peterson, 1994; Sherbourne et al., 1995).

Possible reasons for the failure of finding direct or mediating effects of coping strategies are considered. First, Lazarus and Folkman's stress and coping theory may not be appropriate for the sample of Koreans. Unlike Lazarus and Folkman, who view coping as process that changes over time, coping may be more a personality trait for Koreans. In fact, personal resources such as self-esteem and mastery directly influenced reducing the level of depression among Koreans, as well as mediating the relationship between the stressors and depression. Therefore, a trait-oriented approach to coping may be more

appropriate for the Korean population than the process-oriented approach that Folkman and Lazarus present.

Second, although the coping instrument used in the current study may deal with the stressful circumstances that the Korean immigrants experience, it may not be adequate to represent all the coping strategies used by Koreans to deal with depressive symptoms. Culturally sensitive instruments that measure the coping strategies that Koreans use to deal with stressors and depression may help to identify significant direct effects of coping on depression, as well as mediating effects of coping on the relationship between stressors and depression that this study failed to find.

Another meaningful finding is that perceived social support does not directly influence reducing depression; rather it mediates the adverse effects of stressors on depression among Koreans. The finding that perceived social support does not have a significant direct effect on depression is quite surprising because many studies reported the significant role of perceived social support in directly alleviating depression (Aneshensel & Sone, 1982; Cheng, 1997; Choenarom et al., 2005; Jackson, 1992; Lieberman, 1982; Thoits, 1995).

However, the finding that perceived social support mediates the deleterious impact of stressors on depression in the experience of Koreans is consistent with survey results of other samples of Koreans (Choi, 1997; Lee et al, 2004) as well as the results of many previous studies (Cheng, 1997; Choenarom et al., 2005; Sherbourne et al., 1995; Thoits, 1995). In this study, perceived social support mediates the relationship between stressors and depression through personal resources and task coping, but not through

emotion/avoidance coping. Therefore, the previous research findings that proposed that an important aspect of social support is its influence on the coping strategies under stress (Flkman & Lazarus, 1985; McColl et al., 1995; Throits, 1995) applies in this study only for task coping, not emotion/avoidance coping.

It is also worth mentioning that religiosity has a direct effect on depression, but no indirect effect. This is consistent with the studies that indicated the direct effect of religiosity (Commerford & Reznikoff, 1996; Ellison & Levin, 1998; Koenig et al., 2001; Krause et al., 1999; Smith et al., 2003), but inconsistent with many studies that reported stress buffering aspects of religiosity (Eliassen et al., 2005; Ellison & Levin, 1998; Krause et al., 1999). In this study, religiosity directly influences reducing depression to a small degree, but its influence diminishes when personal resources are taken into account. One of the possible reasons for this is that religiosity is negatively associated with personal resources, meaning that the more religious a person is, the less likely he or she has a high level of personal resources, which in turn diminishes the significant direct effects of religiosity on depression. These confirm the findings of the descriptive analysis, where religious preference and subjective appraisal of the importance of religion are not significantly related to depression. Although the majority (71.9%) of the respondents are affiliated with a Christian church and most of the respondents (86.3%) subjectively appraise religion as important to them, their religious beliefs and practices do not influence in the reduction of depressive symptoms in the stressful conditions of Koreans.

In sum, stressors have substantial effects on depression with and without the mediating variables. However, the mediating variables included in the model enable us to

better understand the relationship between stressors and depression. Among the five mediating variables, personal resources and perceived social support are the two most important factors in understanding the stress-depression process among Korean immigrants. They are both significantly related with stressors and with depression. However, coping and religiosity do not significantly influence the stress-depression process among Koreans. Task and emotion/avoidance coping strategies are significantly associated with stressors, but not with depression. Religiosity is significantly related with depression, but not with stressors.

2. LIMITATIONS

This study provides valuable information on the relationship between stressors and depression as well as the effects of mediating variables on that relationship among Koreans in Austin, Texas. However, the findings of this study need to be viewed in light of the following limitations.

First, the sample of this study is not a random sample drawn from the Korean population in Austin, Texas. Since the possible sampling frames on Koreans were not available, it was not feasible to select a probability sample. Therefore, the study used a nonprobability sampling procedure that relies on available subjects. The selection of the subjects was based on those who agreed to participate. Since nonprobability convenience sampling was used to assure adequate sample size, caution should be exercised in generalizing the findings to a larger population, including Koreans as a whole.

Second, along with the sampling of self-selection, the data is obtained by self-report survey. Since a survey relies on what respondents say, not what they actually do, weak validity is concerned (Rubin & Babbie, 1997). In addition, the survey can be influenced by a social desirability bias because the participants may respond in a socially desirable way rather than a way that they actually think or do.

Third, another limitation is that the study used cross-sectional data. As with many cross-sectional studies, causality cannot be determined in this study. Since time order was not considered, this study cannot determine the correct temporal sequence in terms of stressors, depression, social support, personal resources, coping, and religiosity. It is possible to develop an alternative model with some relationships in the opposite direction. For example, coping is hypothesized to influence the level of depression, but it is found not to be significantly related to depression. This may be because the relationship operates in the opposite direction, where the level of depression influences the selection of coping strategies. For another example, personal resources are hypothesized to influence the level of depression, but the reverse could also be argued. A longitudinal model can verify the directionality of the variables and the causal process among the relationships by controlling for the previous level of depression.

Fourth, although the primary focus of SEM analysis is not on significance testing but on the overall model fit, the chi-square for the modified structural model of the study is significant. Even though a chi-square value is known to be misleading in many conditions in SEM analysis and all the additional fit indices show adequate model fit, the collection of fit indices yield mixed support for the model. While SEM analysis is very

efficient in testing the overall model fit and estimating multiple dependent variables as well as mediating variables, the tested model is accepted only based on the consideration that there could be other competing models that can explain the data equally as well. Therefore, the results of the current study are considered as tentative, and a replication should be conducted with an independently drawn sample to confirm the relationships among the latent variables found in the current study sample.

Small sample size is another limitation. The total sample of this study meets the sample size of 200 that many researchers recommend for SEM analysis. Also, the sample size meets the minimum recommended ratio of five respondents for each estimated parameter. However, it is short of the appropriate recommended ratio of ten respondents for each estimated parameter. Some researchers recommend the higher ratio of fifteen respondents for each parameter in the case that the assumption of multivariate normality is violated. Considering that two of the observed variables have kurtosis indices that do not meet the conservative criteria, a larger sample would enable the estimation of a less inflated or deflated chi-square.

3. IMPLICATIONS

3.1. Implications for Social Work Practice

The findings of the present study provide implications for social workers and practitioners of mental health services. High levels of depressive symptoms experienced by Koreans in this study are consistent with the previous findings of the last 20 years.

The fact that Koreans in the U.S. have experienced high level of depressive symptoms for the last two decades may imply that there have not been effective services to alleviate depression among this population. This may be because the mental health facilities still depend on the public records that assess the needs of Korean population only based on their utilization of mental health facilities. However, it is necessary to pay more attention to this population and intervene in reducing the level of depression more systematically.

One way to help this population is to develop a service program for Korean immigrants. For this program to be effective, it needs to be based upon the understanding of the culture-based conceptualization of mental illness. It has been consistently noted that Koreans tend to underuse mental health services because Korean culture views mental illness as stigmatizing and discourages open discussion of psychological problems. Also, Korean families tend to keep the family member's problem within the immediate family instead of seeking professional help because they are afraid of losing family face.

Considering the stigma associated with mental illness and reluctance to use public services, it seems critical to learn how to effectively reach more Koreans at risk and support them systematically. For example, formal services may need to be arranged in a way that they complement assistance provided by informal services. It may also be effective to develop preventive services that identify individuals or families at risk but not so serious as they are labeled as mentally ill. For example, long-term community services that help the immigrants' adjustment, such as offering informal English classes for homemakers, child-care information as well as informal workshops at the community centers can be the types of prevention programs that can easily reach the Korean

community. These community-based, preventive and supportive services can not only ease the adjustment process but also are a good opportunity to informally educate the participants that depression is not a shameful disease that they need to hide, that anyone can experience it during the stressful process of immigration, and to suggest ways to effectively cope with it.

Based on the findings of this study, protective intervention can educate Koreans to identify the risk factors (stressors) and the protective factors (mediating factors) of depression and to understand the roles of protective factors in the stress-depression process. For example, depression associated with stress among Korean immigrants is mediated by perceived social support in this study. Therefore, protective intervention programs can incorporate a support group for Koreans to share their immigration experiences and their coping strategies to handle stress related to migration. This type of support group can not only help them to identify possible stressors that they commonly experience but also build a sense of support among them. Also, the stress-depression process among Koreans is mediated by self-esteem and mastery. Therefore, a protective intervention program can develop a self-respect group to pay more attention to building their personal resources. These types of informal, education and support groups can provide Korean immigrants with the assurance of the readily available support for them, which can in turn boost their self-esteem and sense of mastery.

For this preventive program to be effective, there needs to be an adequate number of Korean professionals available to serve this population. To the investigator's knowledge, there is no Korean or Korean-speaking practitioner in the mental health

facilities or the family service centers in Austin, Texas. In view of prior findings that the cultural gap between clients and clinicians is a significant barrier to the use of mental health services, a more active effort to match client-therapist language and ethnicity should be made. As the Korean population has grown rapidly over the last few decades, there needs to be an effort for the public service agencies to staff for cultural competency. The ready availability of service providers with knowledge of Korean culture and language can encourage the help-seeking behavior of Korean immigrants.

Such efforts may be more effective as a joint action with the Korean community. Literature has suggested that Korean families tend to consult the community leaders instead of seeking for professional help when they have faced mental health problems. The community leaders that Korean immigrants turn to mostly frequently are their church pastors. In many cases, pastors are the first ones to be informed of all sorts of difficulties experienced by Korean families, aside from their own family members. Even the public social agencies, due to lack of knowledge about Korean culture and no available staff to effectively communicate with Korean clients, often contact the Korean ethnic church and send their clients to the pastors for help. However, most pastors tend to view the mental illness from a spiritual perspective (Kim-Goh, 1993). Thus, further steps for professional intervention are not usually taken. This may lead to their failing to receive timely intervention and often aggravate the seriousness of their mental illness. Therefore, it is very important for the mental health facilities to actively outreach to the church community as part of their protective intervention. The mental health practitioners can provide the pastors and staffs of Korean ethnic churches with the scientific knowledge on

the possible risk factors of mental illness and encourage them make referrals in cases in which they identify an individual or family at-risk.

In addition to community churches, Koreans often consult the traditional practitioners of indigenous, alternative treatments such as acupuncturists, oriental medicine doctors, or herbalists, instead of contacting the public mental health facilities. Therefore, it seems essential that the practitioners who work with the Korean population not only be familiar with the alternative practices that are frequently used by Koreans but also collaborate with the alternative practitioners by informing them of the importance of their role in identifying individuals or families at risk. Moreover, family doctors are in an important position in identifying at-risk Koreans. It is noted that the physicians of Korean patients have been challenged by the tendency of Koreans to focus on physical discomfort while suppressing the emotional symptoms. Therefore, mental health practitioners need to collaborate with health care providers so that they can refer at-risk individuals to mental health professionals.

3.2. Implications for Research and Theory

Although it is evident that Korean immigrants experience high levels of depression resulting from stressors, research on the stress-depression process among this population is scant. Moreover, there is no research-based paradigm that specifies the stress and depression process with coping strategies, personal resources, social support, and religiosity. Most studies on Korean immigrants' mental health are exploratory or descriptive and they are not based on a theory. Scientific investigation of the risk factors

as well as the mediating factors is critical to understanding the stressors and depression process and to guide appropriate interventions accordingly. On both empirical and theoretical grounds, the current study needs to be replicated with another sample, preferably a random sample in a longitudinal design. Methodologically sound, large-scaled research is critical to develop a theoretical framework to explain the stress-depression process among Korean immigrants.

Lazarus and Folkman's theory of stress and coping is not fully supported by the sample of Koreans in the current study. Unlike previous findings, coping strategies do not significantly influence reducing depression nor do they mediate the negative impact of stressors on depression. Coping researchers view coping changes over time based on the situational context and address that both the outcome and process aspect of coping should be measured independently. Maybe the future research needs to include more contextual variables that influence the relation between coping processes and the depressive symptoms. An alternative explanation is that coping may not be a process, but more of a personality characteristic or a set of individual actions within the Korean population.

Although coping is not directly or indirectly related to depression, it is strongly related to personal resources and perceived social support, which are the major mediators of the relationship between stressors and depression in the study. Therefore, it is important to identify the contexts where coping is positively related to these mediators. Further research needs to replicate the current study and clarify or confirm these findings. All these empirical efforts need to be integrated into a theoretical model that can better

explain the stress and depression process among Koreans as well as guide effective service intervention.

In addition, the current study finds that social support has only an indirect effect on the relationship between stressors and depression. This may be because social support is measured by perceived social support, not by tangible or received social support. Previous research reported the importance of perceived social support and suggested that social network utilization is meaningful only when the quality of the relationship is perceived to be satisfactory. However, it may not be the case for the sample of Koreans in this study. Or maybe the subjects need to receive the tangible support to be able to perceive the relationship as supportive. Future research needs to include different aspects of social support to clarify these findings.

Another important implication is that future research studies need to consider the pre-migration experiences of Korean immigrants. For example, the pre-depressed Koreans may be more vulnerable to stressors associated with acculturation and become more depressed following migration. Or those who maintained a high level of socioeconomic status in Korea may be more depressed after immigration because they may feel relatively more deprived than the others.

Since the findings of this study do not support the process-oriented coping approaches which depend on contextual influences, but rather imply that coping is more influenced by personal characteristics, depression may not be much influenced by the countries in which they live. Comparing the Koreans living in the U.S. with those in Korea may clarify whether the high level of depression is more influenced by the

migration process or by general life stressors. The findings of the current study suggest that Korean immigrants suffer from high levels of depression associated with acculturative stress and negative life events. However, Koreans living in Korea may experience depressive symptoms as high as those in the U.S. due to different sources of chronic stress.

Background information such as gender, marital status, income, and employment status that are found to be significant in the prior studies do not yield consistent findings in the current study. More research needs to clarify these conflicting results.

3.3. Implications for Policy

The finding that Koreans experience high levels of depression associated with stressors is consistent with the previous research findings. The reality that the problem has been current for the last two decades may imply that the public attention has not been adequate to reach to this population. It is evident that Korean immigrants' mental health problems are not just the product of one individual's maladjustment. Therefore, there needs to be more public attention in order to organize structural assistance for this population.

The Korean population in Austin, Texas has been growing very fast. For example, the U.S. Census Bureau's general demographics for 2005 indicated an estimated 5,426 Koreans living in the city of Austin (U.S. Census Bureau, 2005). These data are limited to the household population and exclude the population living in institutions or college dormitories. Among many Asians subgroups, Koreans are third in number following

Chinese (7,052) and Vietnamese (6,633) (U.S. Census Bureau, 2005). However, Korean immigrants have still remained one of the least understood immigrant groups in this city. Although the importance of subgroup differences among Asian populations has been emphasized, Koreans are still viewed in the broad category of Asian American. Koreans in the U.S. are still invisible to the public and public policies have not been sensitive to the needs of this population.

Implied in this study as well as in the previous studies is the need to advocate for Koreans in the U.S. It is important to address the high level of depression among Koreans and advocate for more adequate public attention to them. In addition to the individualized effort to develop a service program for this population at mental health facilities, more structural assistance is needed. The barriers to Koreans accessing public services should be addressed by policy makers. These barriers include feelings of shame, lack of fluency in English, complicated legal or immigration policies, and cultural insensitivity in many public facilities. Also, discrimination and exploitation of immigrants and underemployment of educated immigrants need to be addressed.

In fact, more active effort is urgently required to assess the needs of the Korean population. More scientific research is necessary to evaluate the effectiveness of any existing services for this population, and culturally sensitive public policies are critical to approaching this population. In order to effectively help with the psychological distress among Koreans, a more integral approach is important including protective interventions in their adjustment process and community outreach services. It is also important to intervene in the related risk factors that Koreans face in their lives including family

violence, juvenile delinquency, marital problems, intergenerational conflicts, and alienation of the elders. Especially, legal assistance like legal consultation or translation is needed for the Koreans to use the legal system. For all these efforts to be possible, there needs to be adequate funding designated for the specific needs of this population. Funding is needed for public assistance with the adjustment process, community outreach services, or other protective interventions. Funding is needed to educate the practitioners who work with Koreans in cultural competency. Funding is also needed for more scientific research on this population.

Furthermore, policy makers and service coordinators need to collaborate to integrate services for immigrants. Often immigrant services are left to each ethnic community, and services are thus dispersed and duplicated. Without a collective approach, some common service needs cannot be effectively obtained by each ethnic group. For example, most of the Korean ethnic churches have a separate department to help new immigrants with their adjustment to the new society, including airport pick-up, assistance for housing, and other adjustment procedures. A multi-cultural center that is equipped with bilingual professionals who represent various ethnic groups can be a good collective approach to incorporate the different or overlapping services for immigrants. Legal and health aspects also need a collective approach to provide information, referral, education, and advocacy.

3.4. Implications for Social Work Education

Educators and educational institutions are important in that they assume the responsibility for training future practitioners, researchers, and policy makers. Implied in this study is that cultural factors are deeply rooted in the experiences of ethnic minorities. Therefore, educators need to pay special attention to teaching for cultural competency. The social work curriculum needs to represent populations from diverse cultural backgrounds and address the needs of each unique population. As some problems are common to every immigrant group and others are more unique, particular attention must be reflected in the profession of social work. Instead of using the category of Asian Americans, the uniqueness of each ethnic group needs to be respected and discussed in the curriculum.

Educators need to make an active effort to review the curriculum and address any bias that may remain, and update the curricula accordingly. Especially, they need to review contemporary social work theories and, if needed, suggest alternative theoretical frameworks for different ethnic populations. In educating mental health practitioners, researchers and policy makers, sensitivity to each culture needs to be addressed. To this purpose, they can utilize community leaders and representatives of specific ethnic groups for their own classes, workshops, or training sessions.

4. CONCLUSION

This study attempted to extend current research on stress and depression in the Korean immigrant population in the U.S. While most studies on Korean immigrants focus on the unsettling nature of immigration, the current study assumed that the immigration process varies and that many of the immigrants experience success in the new society by actively using effective coping strategies, personal resources, social support, and religiosity. The study investigated the relationship between stressors and depression among Korean immigrants and the effects of mediating variables on the relationship.

The results of this study provided a new direction in the research of stress and coping. Lazarus and Folkman's theory of stress and coping was not supported by the Korean sample of this study. Especially, coping strategies did not influence depression nor did they mediate the relationship between stressors and depression. However, personal resources such as self-esteem and mastery were found to significantly influence reducing depression associated with stress. Moreover, perceived social support mediated the impact of stressors on depression. Future studies need to integrate situational variables that are associated with different types of coping. Also, the pre-migrational experiences need to be considered for future research on Korean immigrants.

Appendix A
English Version of Consent Form

IRB# _____

Informed Consent to Participate in Research
The University of Texas at Austin

You are being asked to participate in a research study. This form provides you with information about the study. The Principal Investigator, Hyun-Sun Park, will provide you with a copy of this form to keep for your reference and will also describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

Title of Research Study:

Effects of Mediating Factors on the Stress and Depression Process among Korean Immigrants
in the United States

Principal Investigator(s) (include faculty sponsor), UT affiliation, and Telephone Number(s):

Principal Investigator:
Hyun-Sun Park
Doctoral Candidate
School of Social Work
University of Texas at Austin
(512) 296-0305
hysunny@mail.utexas.edu

Faculty Sponsor:
Calvin L. Streeter, Ph.D., Professor
School of Social Work
University of Texas at Austin
(512) 471-0543
cstreeter@mail.utexas.edu

Funding source: Not Applicable

This is part of a doctoral dissertation research.

What is the purpose of this study?

The purpose of this study is to extend current research on stress and depression to the Korean immigrant population in the United States. While most studies on Korean immigrants focus almost entirely on the unsettling nature of immigration, the current study assumes that the immigration process varies and that many of the immigrants experience success in the new society by actively using effective coping strategies, personal resources, and social support.

This study will examine the role of mediating factors in the relationship between various sources of stress and depression among Korean immigrants.

You are being asked to participate in the study because you are a Korean immigrant who migrated to the U. S. after the age of 16. If you agree to participate, you will be one of approximately 200 people in the study.

What will be done if you take part in this research study?

If you agree to take part in this study, you will be asked questions that will take approximately 30-45 minutes to complete. You will be asked questions regarding your experience of various sources of stress, psychological distress, coping strategies, perceived social support, mastery, self-esteem, and religiosity. Prior to completing the survey, you will be informed of the purpose of the study, voluntary participation and withdrawal, informed consent, anonymity of the responses, purpose of the depression scales (which is not designed for clinical purposes), and possible resources for professional mental health needs. In addition, any questions that you may have will be answered and then you will be asked to read and sign the informed consent form.

The Project Duration is:

This project is part of a doctoral dissertation and is expected to end by summer, 2007. Your involvement in this study will begin with your decision to complete the survey and end with your completion of the survey.

What are the possible discomforts and risks?

There can be discomfort associated with responding to questions about personally distressing experiences. Because of this, you have the right to refuse to answer any question.

Please note that you will be given a chance to talk about discomfort and risks related to this study prior to completing the survey. If you wish to discuss the information above or any other risks you may experience, you may ask questions now or call or email the Principal Investigator listed on the front page of this form. In case you experience any

negative emotional consequences from participating in this survey, a list of professional mental health resources will be provided.

What are the possible benefits to you or to others?

You may receive information of mental health facilities and structural assistance available to you. It may also be helpful to have the opportunity to talk about the issues addressed by Korean immigrants and to learn about qualified mental health resources available to you. In addition, you may find it meaningful and beneficial if the study findings are useful to Korean immigrants living in the United States.

If you choose to take part in this study, will it cost you anything?

If you choose to take part in this study, it will cost you nothing.

Will you receive compensation for your participation in this study?

There will be no monetary compensation for your participation in this study.

What if you are injured because of the study?

This study does not involve any physical risks.

If you do not want to take part in this study, what other options are available to you?

Your participation in this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with The University of Texas at Austin.

How can you withdraw from this research study and who should you call if you have questions?

You can withdraw from this research at anytime by informing the PI, Hyun-Sun Park.

If you wish to stop your participation in this research study for any reason, you should contact the principal investigator: Hyun-Sun Park at (512) 296-0305, or Calvin L. Streeter at (512) 471-0543. You should also call the principal investigator for any questions, concerns, or complaints about the research. You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits for which you may be entitled. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have questions about your rights as a research participant, or if you have complaints, concerns, or questions about the research, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, or the Office of Research Compliance and Support at (512) 471-8871.

How will your privacy and the confidentiality of your research records be protected?

Every effort will be taken to protect the anonymity of your response. The informed consent form and survey will be collected separately. The informed consent for participation will be obtained prior to the administration of the surveys and the obtained informed consent forms will be put in a manila envelope and kept in a locked file cabinet. The survey does not carry any identification of the respondents and completed surveys will be put in a separate manila envelope from the consent forms and kept in a locked file cabinet.

If in the unlikely event it becomes necessary for the Institutional Review Board to review your research records, then the University of Texas at Austin will protect the confidentiality of those records to the extent permitted by law. Your research records will not be released without your consent unless required by law or a court order. The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

If the results of this research are published or presented at scientific meetings, your identity will not be disclosed.

Will the researchers benefit from your participation in this study?

The possible benefit of your participation is that the researcher may gain a depth of understanding about the patterns of psychological correlates among Korean immigrants from the findings of the study. In addition, the results of the survey may help service providers develop more culturally sensitive programs to assist with stress and depression within the Korean community.

Signatures:

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

Signature and printed name of person obtaining consent	Date
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You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

Printed Name of Subject	Date
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Signature of Subject	Date
-----------------------------	-------------

Signature of Principal Investigator	Date
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Appendix B
Korean Version of Consent Form

연구 참여 동의서

텍사스 어스틴 주립 대학교

안녕하십니까? 저는 텍사스 어스틴 주립대학 사회사업학과에 재학중인 박현선입니다. 저는 현재 박사과정 논문으로, “한국 교포들의 스트레스와 우울증: 개인의 대처방식, 사회적 지지, 자존감, 자기 통제, 그리고 종교와의 상관관계”에 관한 연구를 진행하고 있습니다.

귀하는 저의 연구에 참여하도록 초청받았습니다. 이 자리를 빌어 저는 귀하에게 저의 연구에 대해 개략적인 설명을 드릴 것입니다. 참여 여부를 결정하시기에 앞서 아래의 내용을 읽어 보시고 궁금한 사항은 저에게 질문하여 주시기 바랍니다. 귀하의 참여는 전적으로 자발적이고, 원하지 않으시면 참여를 거부하실 수 있습니다.

이 연구의 목적은 미국내 거주하는 한국인의 스트레스와 우울증에 관한 기존의 연구를 증진시키는데 있습니다. 미국에서의 생활은 많은 스트레스를 유발하며, 이 스트레스로 인해 많은 한국 교포들이 우울증을 경험하고 있다고 기존의 연구는 말합니다. 지금까지의 연구가 한국 교포들의 이민/이주가 가져오는 부정적이고 우울한 측면에 집중하여 왔던 데 비해, 본 연구는 한국 교포의 이민/이주 경험은 매우 다양하며 또 많은 요소들, 특히 스트레스를 경험할때 대처하는 방식, 대인관계나 그로부터 받는 사회적 지지나 도움, 자존감, 자기 통제, 그리고 개인의 신앙과 종교에 밀접한 상관관계를 가지고 있다고 봅니다. 따라서, 이 연구는 이와 같은 요소들이 한국 교포들이 경험하는 스트레스와 우울증과의 관계에 어떠한 영향을 미치는지를 고찰하고자 합니다.

귀하께서 16 세 이후에 미국에 오셨고 현재 21 세 이상이시라면 이 연구에 참여하여 주실 것을 부탁드립니다. 이 연구에는 200 여명의 한국 교포들께서 참여하실 것입니다.

귀하께서 참여를 원하신다면 첨부된 설문지를 작성해 주시기 바랍니다. 설문지는 귀하의 다양한 스트레스 경험과 심리적 어려움과 우울증, 스트레스 대처 방식, 대인관계로부터 받는 지지, 자존감, 자기 통제, 그리고 종교/신앙에 관해 묻습니다. 설문지를 작성하는 데는 30-45 분 정도가 소요될 것입니다. 설문지에 포함된 우울증 관련 물음은 임상목적의 도구가 아니므로, 귀하께서 이 물음에서 높은 점수가 나왔다고 해도 임상치료를 요하는 우울증을 겪고 계시다고는 엄밀하게 말할수 없음을 알려드립니다. 하지만, 귀하께서 이와 관련해 더 많은 도움을 원하신다면, 지역사회에 있는 정신 건강 전문가들의 정보를 드리도록 하겠습니다.

물론, 스트레스 경험과 심리적 어려움에 관한 질문에 답하시는 것이 귀하의 마음에 불편을 끼쳐드릴 수 있습니다. 설문지를 작성하시기 전에 이러한 고민과 어려움에 대해서 얼마든지 이야기하실 수 있습니다. 만약 귀하께서 이러한 고민과 어려움이 있으시다면 지금 이 시간에 의논하셔도 좋고, 차후에 저나 지도교수에게 연락하셔도 됩니다. 그리고, 귀하께서는 답하기 곤란한 질문에는 답하지 않을 권리가 있습니다.

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연구자는 이 연구의 목적, 절차, 그리고 참여에 수반될 수 있는 유익과 피해에 관해 논의하였습니다.

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참여자의 이름	날짜
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연구자의 서명	날짜
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Appendix C
English Version of Questionnaires

Center for Epidemiologic Studies Depression Scale (CES-D)

Instructions: Below is a list of the ways that you might have felt or behaved. **Please tell me how often you have felt this way during the past week by circling the appropriate number.** For each statement choose from the following alternatives:

0 = Rarely or none of the time (Less than a day)

1 = Some or a little of the time (1-2 days)

2 = Occasionally or a moderate amount of the time (3-4 days)

3 = Most or all of the time (5-7 days)

How often have you felt this way during the past week?

	<i>Less than 1 day</i>	<i>1-2 days</i>	<i>3-4 days</i>	<i>5-7 days</i>
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
4. I felt I was just as good as other people.	0	1	2	3
5. I had trouble keeping my mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a failure.	0	1	2	3
10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people dislike me.	0	1	2	3
20. I could not get "going".	0	1	2	3

The Life Experiences Survey

Instructions: Listed below are a number of events which sometimes bring about change in the lives and necessitate social readjustment. **For those events which you have experienced in the past year, please indicate the extent to which you viewed the event as having either a positive or negative impact on your life by circling the appropriate number. If you have not experienced the events, please rate 0.** For each question choose from the following alternatives:

-2 = very negative

-1 = negative

0 = no impact

+1 = positive

+2 = very positive

	<i>Very negative</i>	<i>Negative</i>	<i>No impact</i>	<i>Positive</i>	<i>Very positive</i>
1. Marriage	-2	-1	0	+1	+2
2. Engagement	-2	-1	0	+1	+2
3. Divorce	-2	-1	0	+1	+2
4. Separation from spouse (due to work, travel, etc.)	-2	-1	0	+1	+2
5. Marital separation from mate (due to conflict)	-2	-1	0	+1	+2
6. Marital reconciliation with mate	-2	-1	0	+1	+2
7. Breaking up with boyfriend/girlfriend	-2	-1	0	+1	+2
8. Reconciliation with boyfriend/girlfriend	-2	-1	0	+1	+2
9. Sexual difficulties	-2	-1	0	+1	+2
10. Death of spouse	-2	-1	0	+1	+2
11. Death of close family member: (mother, father, brother, sister, grandmother, grandfather, and other)	-2	-1	0	+1	+2
12. Death of close friend	-2	-1	0	+1	+2
13. Major personal illness or injury	-2	-1	0	+1	+2
14. Serious illness or injury of close family member: (father, mother, sister, brother, grandfather, grandmother, spouse, and other)	-2	-1	0	+1	+2
15. Serious injury or illness of close friend	-2	-1	0	+1	+2
16. Ending of formal schooling	-2	-1	0	+1	+2
17. Leaving home for the first time	-2	-1	0	+1	+2
18. Son or daughter leaving home (due to marriage, college, etc.)	-2	-1	0	+1	+2
19. Minor law violations (traffic tickets, disturbing the peace, etc)	-2	-1	0	+1	+2
20. Detention in jail or comparable institution	-2	-1	0	+1	+2
21. Outstanding personal achievement	-2	-1	0	+1	+2

	<i>Very negative</i>	<i>Negative</i>	<i>No impact</i>	<i>Positive</i>	<i>Very positive</i>
22. Changed work situation (different work responsibility, major change in working conditions, working hours, etc)	-2	-1	0	+1	+2
23. New job	-2	-1	0	+1	+2
24. Being fired from job	-2	-1	0	+1	+2
25. Retirement from work	-2	-1	0	+1	+2
26. Change in spouse's work (loss of a job, beginning new job, changing to a new job, retirement, etc)	-2	-1	0	+1	+2
27. Pregnancy or wife/girlfriend's pregnancy	-2	-1	0	+1	+2
28. Gaining a new family member (through birth, adoption, family member moving in, etc.)	-2	-1	0	+1	+2
29. Having abortion or wife/girlfriend having abortion	-2	-1	0	+1	+2
30. Change of residence	-2	-1	0	+1	+2
31. Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc)	-2	-1	0	+1	+2
32. Major change in financial status (a lot better off or a lot sores off)	-2	-1	0	+1	+2
33. Borrowing more than \$10,000 (buying home, business, etc.)	-2	-1	0	+1	+2
34. Borrowing less than \$10,000 (buying car, TV, getting school loan, etc.)	-2	-1	0	+1	+2
35. Foreclosure on mortgage or loan	-2	-1	0	+1	+2
36. Major change in closeness of family members (increased or decreased closeness)	-2	-1	0	+1	+2
37. Major change in number of arguments with spouse (a lot more or a lot less arguments)	-2	-1	0	+1	+2
38. Trouble with in-laws	-2	-1	0	+1	+2
39. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)	-2	-1	0	+1	+2
40. Major change in church activities (increased or decreased attendance)	-2	-1	0	+1	+2
41. Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation)	-2	-1	0	+1	+2
42. Major change in sleeping habits (much more or much less sleep)	-2	-1	0	+1	+2
43. Major change in eating habits (much more or much less food intake)	-2	-1	0	+1	+2
44. Major change in usual type and/or amount of recreation	-2	-1	0	+1	+2

Perceived Stress Scale (PSS)

Instructions: The questions in this scale ask you about your feelings and thoughts. **Please indicate how often you felt or thought a certain way during the last month by circling the appropriate number.** For each question choose from the following alternatives:

- 0 = never**
1 = almost never
2 = sometimes
3 = fairly often
4 = very often

In the last month, how often have you felt this way?

	<i>Never</i>	<i>Almost never</i>	<i>Sometimes</i>	<i>Fairly often</i>	<i>Very often</i>
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do ?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Acculturative Stress Index (ASI)

Instructions: Items below ask you the degree to which you are undergoing difficulties while adjusting to living in America. **Please circle the appropriate number for each statement.**

How often you experience difficulties in the following areas because of your ability to speak and understand English?

I experience difficulties when:

	<i>Never</i>	<i>Sometimes</i>	<i>Often</i>	<i>Very often</i>
1. I talk to children.	4	3	2	1
2. I am at work .	4	3	2	1
3. I read a newspaper/magazine.	4	3	2	1
4. I try to understand official documents (i.e., tax forms).	4	3	2	1
5. I go shopping.	4	3	2	1
6. I try to understand the TV/radio.	4	3	2	1

Please tell me how often you experience stress because of the following circumstances.

I feel that living in America I stressful because:

	<i>Never</i>	<i>Sometimes</i>	<i>Often</i>	<i>Very often</i>
7. I lack the opportunity to visit Korea.	4	3	2	1
8. I am living away from my family, relatives and friends.	4	3	2	1
9. I am unable to do the things I used to enjoy when I was in Korea.	4	3	2	1
10. I am not able to find someone I can confide in.	4	3	2	1
11. I do not have good and/or close friends.	4	3	2	1
12. I am mistreated by other Koreans.	4	3	2	1
13. I have a job that is below my experience and qualifications.	4	3	2	1
14. The job experience I had in Korea is not recognized in the U.S.	4	3	2	1
15. My education in Korea is not recognized at work.	4	3	2	1
16. I am unable to find adequate social support or a social group in the U.S.	4	3	2	1
17. Others discriminate against me.	4	3	2	1
18. I am treated as an alien by others.	4	3	2	1
19. I do not understand the school or educational system in the U.S.	4	3	2	1
20. I have few, if any, opportunities to participate in American politics	4	3	2	1
21. I am constantly reminded by others of my minority status.	4	3	2	1
22. I feel helpless to make political decisions.	4	3	2	1
23. I have few, if any, opportunities to earn more income.	4	3	2	1

	<i>Never</i>	<i>Sometimes</i>	<i>Often</i>	<i>Very often</i>
24. I am disappointed that my standard of living is not what I had for when I first came to the U.S.	4	3	2	1
25. I am not able to have time for, or have money for, a vacation.	4	3	2	1
26. I feel that my relationship with my spouse would be better if I was living in Korea.	4	3	2	1
27. I worry about the future of my children.	4	3	2	1
28. I feel anxious that my children will grow up and not respect my spouse and I as parents.	4	3	2	1
29. I worry about my family members losing cohesion with each other and I would not have to worry about this family problem if I lived in Korea.	4	3	2	1
30. I frequently argue with my spouse.	4	3	2	1
31. I feel that the relationship between my spouse and my parents has gotten worse since I have come to the U.S.	4	3	2	1

Multidimensional Scale of Perceived Social Support (MSPSS)

Instructions: Below is a list of the ways that you think about the support that you are getting from your family, friends, and significant others. **Please indicate the extent to which you agree with each item by circling the appropriate number.**

How strongly do you agree or disagree with the following statements?

	<i>Strongly Disagree</i>			<i>Strongly agree</i>	
1. There is a special person who is around when I am in need.	1	2	3	4	5
2. There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5
3. My family really tries to help me.	1	2	3	4	5
4. I get the emotional help and support I need from my family.	1	2	3	4	5
5. I have a special person who is a real source of comfort to me.	1	2	3	4	5
6. My friends really try to help me.	1	2	3	4	5
7. I can count on my friends when things go wrong.	1	2	3	4	5
8. I can talk about my problems with my family.	1	2	3	4	5
9. I have friends with whom I can share my joys and sorrows.	1	2	3	4	5
10. There is a special person in my life who cares about my feelings.	1	2	3	4	5
11. My family is willing to help me make decisions.	1	2	3	4	5
12. I can talk about my problems with my friends.	1	2	3	4	5

Coping Inventory for Stressful Situation (CISS-Adult)

Instructions: The followings are ways people react to various difficult, stressful, or upsetting situations. **Please indicate how much you engage in these types of activities when you encounter a difficult, stressful, or upsetting situation by circling the appropriate number from 1 (not at all) to 5 (very much) for each statement.**

	<i>Not at all</i>			<i>Very much</i>	
1. Schedule my time better.	1	2	3	4	5
2. Focus on the problem and see how I can solve it.	1	2	3	4	5
3. Think about the good times I've had.	1	2	3	4	5
4. Try to be with other people.	1	2	3	4	5
5. Blame myself for procrastinating.	1	2	3	4	5
6. Do what I think is best.	1	2	3	4	5
7. Become preoccupied with aches and pains.	1	2	3	4	5
8. Blame myself for having gotten into this situation.	1	2	3	4	5
9. Window shop.	1	2	3	4	5
10. Outline my priorities.	1	2	3	4	5
11. Try to go to sleep.	1	2	3	4	5
12. Treat myself to a favorite food or snack.	1	2	3	4	5
13. Feel anxious about not being able to cope.	1	2	3	4	5
14. Become very tense.	1	2	3	4	5
15. Think about how I solved similar problems.	1	2	3	4	5
16. Tell myself that it is really not happening to me.	1	2	3	4	5
17. Blame myself for being too emotional about the situation.	1	2	3	4	5
18. Go out for a snack or meal.	1	2	3	4	5
19. Become very upset.	1	2	3	4	5
20. Buy myself something.	1	2	3	4	5
21. Determine a course of action and follow it.	1	2	3	4	5
22. Blame myself for not knowing what to do.	1	2	3	4	5
23. Go to a party.	1	2	3	4	5
24. Work to understand the situation.	1	2	3	4	5
25. "Freeze" and not know what to do.	1	2	3	4	5
26. Take corrective action immediately.	1	2	3	4	5
27. Think about the event and learn from my mistakes.	1	2	3	4	5
28. Wish that I could change what had happened or how I felt.	1	2	3	4	5
29. Visit a friend.	1	2	3	4	5
30. Worry about what I am going to do.	1	2	3	4	5
31. Spend time with a special person.	1	2	3	4	5

	<i>Not at all</i>			<i>Very much</i>	
32. Go for a walk.	1	2	3	4	5
33. Tell myself that it will never happen again.	1	2	3	4	5
34. Focus on my general inadequacies.	1	2	3	4	5
35. Talk to someone whose advice I value.	1	2	3	4	5
36. Analyze the problem before reacting.	1	2	3	4	5
37. Phone a friend.	1	2	3	4	5
38. Get angry.	1	2	3	4	5
39. Adjust my priorities.	1	2	3	4	5
40. See a movie.	1	2	3	4	5
41. Get control of the situation.	1	2	3	4	5
42. Make an extra effort to get things done.	1	2	3	4	5
43. Come up with several different solutions to the problem.	1	2	3	4	5
44. Take some time off and get away from the situation.	1	2	3	4	5
45. Take it out on other people.	1	2	3	4	5
46. Use the situation to prove that I can do it.	1	2	3	4	5
47. Try to be organized so I can be on top of the situation.	1	2	3	4	5
48. Watch TV.	1	2	3	4	5

The Mastery Scale

Instructions: The questions in this scale ask the extent to which you think your life changes under your own control. **Please indicate how strongly you agree or disagree with each statement by circling the appropriate number from 1 (strongly disagree) to 4 (strongly agree).**

How strongly do you agree or disagree with these statements about yourself?

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
1. There is really no way I can solve problems I have.	1	2	3	4
2. Sometimes I feel that I am being pushed around in life.	1	2	3	4
3. I have little control over the things that happen to me.	1	2	3	4
4. I can do just about everything I set my mind to do.	1	2	3	4
5. I often feel helpless in dealing with the problems of life.	1	2	3	4
6. What happens to me in the future mostly depends on me.	1	2	3	4
7. There is little I can do to change many of the important things in my life.	1	2	3	4

Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. **Please indicate the extent to which you agree with each statement by circling the appropriate number from 0 (strongly disagree) to 3 (strongly agree).**

How strongly do you agree or disagree with these statements about yourself?

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
1. On the whole, I am satisfied with myself.	0	1	2	3
2. At times, I think I am no good at all.	0	1	2	3
3. I feel that I have a number of good qualities.	0	1	2	3
4. I am able to do things as well as most other people.	0	1	2	3
5. I feel I do not have much to be proud of.	0	1	2	3
6. I certainly feel useless at times.	0	1	2	3
7. I feel that I'm a person of worth, at least on an equal plane with others.	0	1	2	3
8. I wish I could have more respect for myself.	0	1	2	3
9. All in all, I am inclined to feel that I am a failure.	0	1	2	3
10. I take a positive attitude toward myself.	0	1	2	3

Systems of Belief Inventory (SBI-15R)

Instructions: Below is a list of the ways that you may believe or behave in your life. *Please indicate the extent to which you agree with each statement by circling the appropriate number from 0 (strongly disagree) to 3 (strongly agree).*

How strongly do you agree or disagree with the statements?

	<i>Strongly disagree</i>	<i>Somewhat disagree</i>	<i>Somewhat agree</i>	<i>Strongly agree</i>
1. Religion is important in my day-to-day life.	0	1	2	3
2. Prayer or meditation has helped me cope during times of serious illness.	0	1	2	3
3. I enjoy attending religious functions held by my religious or spiritual group.	0	1	2	3
4. I feel certain that God in some form exists.	0	1	2	3
5. When I need suggestions on how to deal with problems, I know someone in my religious or spiritual community that I can turn to.	0	1	2	3
6. I believe God will not give me a burden I can not carry.	0	1	2	3
7. I enjoy meeting or talking often with people who share my religious or spiritual beliefs.	0	1	2	3
8. During times of illness, my religious or spiritual beliefs have been strengthened.	0	1	2	3
9. When I feel lonely, I rely on people who share my spiritual or religious beliefs for support.	0	1	2	3
10. I have experienced a sense of hope as a result of my religious or spiritual beliefs.	0	1	2	3
11. I have experienced peace of mind through my prayers and meditation.	0	1	2	3
12. One's life and death follows a plan from God.	0	1	2	3
13. I seek out people in my religious or spiritual community when I need help.	0	1	2	3
14. I believe God protects me from harm.	0	1	2	3
15. I pray for help during bad times.	0	1	2	3

Background Information

The following questions ask about your general background.

1. Which year were you born? 19 (year only)

2. In what year did you immigrate to the U.S.? _____

3. What is your gender?

_____ Female
_____ Male

3. What language do you speak?

_____ Korean only
_____ Mostly Korean & some English
_____ Mostly English & some Korean
_____ English only

4. How would you rate your English proficiency?

_____ Not fluent at all
_____ Poor
_____ Not fluent, but no problem in communication
_____ Good
_____ Fluent

5. How would you rate yourself?

_____ Very Korean
_____ Mostly Korean
_____ Bicultural (equally Korean & American)
_____ Mostly American
_____ Very American

6. Who are your close friends?

_____ Koreans only
_____ Mostly Koreans & some Americans
_____ Koreans & Americans about equally
_____ Mostly Americans
_____ Americans only

7. What is your food preference?

- _____ Almost exclusively Korean food
- _____ Mostly Korean food & some American food
- _____ Korean food & American food about equally
- _____ Mostly American food & some Korean food
- _____ Almost exclusively American food

8. What is your TV/Video viewing preference?

- _____ Almost exclusively Korean programs
- _____ Mostly Korean programs & some American programs
- _____ Korean programs & American programs about equally
- _____ Mostly American programs & some Korean programs
- _____ Almost exclusively American programs

9. What is your marital status?

- _____ Married – living together
- _____ Married – living apart
- _____ Not married – living together
- _____ Single
- _____ Separated/Divorced
- _____ Widowed
- _____ Other (Specify: _____)

10. How many children (under 18 years old) are living with you?

11. What is the highest formal education that you have completed?

- _____ No formal education
- _____ Elementary or Middle school diploma
- _____ High school diploma or GED
- _____ Bachelors degree
- _____ Masters degree
- _____ Doctoral or professional degree (MD, JD)
- _____ Other (Specify: _____)

12. What is your current employment status (*Please check all that apply*)

- ☐ Homemaker
- ☐ Not employed
- ☐ Retired
- ☐ full-time student
- ☐ Part-time student
- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Other (Specify: _____)

13. What is your monthly household income before taxes and other deductions?

- ☐ Less than \$2,499
- ☐ \$2,500 - \$4,999
- ☐ \$5,000 - \$7,499
- ☐ \$7,500 - \$9,999
- ☐ Over \$10,000

14. What is your religious preference?

- ☐ Protestant Christian
- ☐ Catholic
- ☐ Buddhist
- ☐ Confucian
- ☐ Non-religious
- ☐ Other (Specify: _____)

15. How important would you say your religious or spiritual beliefs are to you?

- ☐ Not at all important
- ☐ Somewhat important
- ☐ Very important

Thank you very much for your participation!

Appendix D
Korean Version of Questionnaires

우울증

다음은 당신이 겪을 수 있는 감정이나 느낌에 관한 질문입니다. 지난 일주일 동안 당신이 얼마나 자주 다음과 같은 느낌이나 감정을 경험하였는지 가장 잘 나타내주는 번호 한개에 O표 해주십시오.

0 = 전혀/거의 없었다 (일주일에 1일 미만)

1 = 간혹 있었다 (일주일에 1-2일)

2 = 자주 있었다 (일주일에 3-4일)

3 = 대부분/항상 있었다 (일주일에 5-7일)

지난 일주일동안 일상 생활중에 당신은 얼마나 자주 다음과 같이 느끼셨습니까?

	거의 없었다	간혹 있었다	자주 있었다	대부분 있었다
1. 평소에는 대수롭지 않던 일로 심란해졌다.	0	1	2	3
2. 입맛이 없고 식욕이 떨어졌다.	0	1	2	3
3. 가족이나 주위 사람들의 도움에도 우울한 기분을 떨쳐 버릴수가 없었다.	0	1	2	3
4. 나도 남들만큼 괜찮은 사람이라고 느꼈다.	0	1	2	3
5. 일에 집중할 수가 없었다.	0	1	2	3
6. 우울하게 느껴졌다.	0	1	2	3
7. 모든 일들이 힘겹게 느껴졌다.	0	1	2	3
8. 미래가 희망적이라고 느껴졌다.	0	1	2	3
9. 실패한 인생을 살았다고 여겨졌다.	0	1	2	3
10. 두려운 마음이 들었다.	0	1	2	3
11. 잠을 설쳤다.	0	1	2	3
12. 행복했다.	0	1	2	3
13. 평소보다 말수가 줄었다.	0	1	2	3
14. 외롭게 느껴졌다.	0	1	2	3
15. 주위사람들이 불친절했다.	0	1	2	3
16. 삶이 즐겁다고 느꼈다.	0	1	2	3
17. 이유없이 자꾸 눈물이 나왔다.	0	1	2	3
18. 슬프게 느껴졌다.	0	1	2	3
19. 사람들이 나를 싫어한다고 느꼈다.	0	1	2	3
20. 매사에 의욕이 없었다.	0	1	2	3

지난 한해동안의 경험

아래의 문항들은 우리의 삶가운데 변화와 적응을 요하는 사건이나 경험들입니다. 지난 한해동안 당신이 경험한 다음의 일들이 당신의 삶에 얼마나 긍정적 또는 부정적인 영향을 끼쳤는다고 생각하는지 가장 잘 나타내주는 번호 한개에 O표 해주십시오. 당신이 지난 한해동안 경험하지 않은 일에 대해서는 0 (“경험하지 않음”)에 O표 해주십시오.

- 2 = 매우 부정적 영향
- 1 = 조금 부정적 영향
- 0 = 경험하지 않음 또는 아무 영향 없음
- +1 = 조금 긍정적 영향
- +2 = 매우 긍정적 영향

지난 한해동안 당신의 경험중에 다음의 일들을 얼마나 긍정적 또는 부정적이라고 생각하십니까?

	매우 부정적	조금 부정적	경험하지 않음	조금 긍정적	매우 긍정적
1. 결혼	-2	-1	0	+1	+2
2. 약혼	-2	-1	0	+1	+2
3. 이혼	-2	-1	0	+1	+2
4. 직장이나 여행으로 인해 배우자와 별거	-2	-1	0	+1	+2
5. 의견 대립으로 인해 배우자와 별거	-2	-1	0	+1	+2
6. 결혼 조정(marital reconciliation)	-2	-1	0	+1	+2
7. 남자 친구 또는 여자 친구와 헤어짐	-2	-1	0	+1	+2
8. 남자 친구 또는 여자 친구와 화해	-2	-1	0	+1	+2
9. 성적 어려움 (sexual difficulties)	-2	-1	0	+1	+2
10. 배우자와 사별	-2	-1	0	+1	+2
11. 친가족의 사망 (부모, 형제 자매, 조부모등)	-2	-1	0	+1	+2
12. 친한 친구의 죽음	-2	-1	0	+1	+2
13. 개인의 심각한 질병이나 부상	-2	-1	0	+1	+2
14. 친가족의 심각한 질병이나 부상 (부모, 형제 자매, 조부모등)	-2	-1	0	+1	+2
15. 친한 친구의 심각한 질병이나 부상	-2	-1	0	+1	+2
16. 학교 정규 과정을 끝마침	-2	-1	0	+1	+2
17. 평생 처음으로 집을 떠남	-2	-1	0	+1	+2
18. 결혼이나 대학진학으로 인한 자녀들의 분가	-2	-1	0	+1	+2
19. 속도 위반 티켓을 받는 등과 같은 법 위반	-2	-1	0	+1	+2
20. 법적 구류나 구속	-2	-1	0	+1	+2

	매우 부정적	조금 부정적	경험하지 않음	조금 긍정적	매우 긍정적
21. 꾀묵할만한 개인적 업적	-2	-1	0	+1	+2
22. 근무 조건 변경 (업무 책임, 근무 시간 등등)	-2	-1	0	+1	+2
23. 새 직장	-2	-1	0	+1	+2
24. 실직	-2	-1	0	+1	+2
25. 퇴직	-2	-1	0	+1	+2
26. 배우자의 직장 관련 변화 (실직, 이직, 퇴직 등)	-2	-1	0	+1	+2
27. 임신, 또는 아내/여자 친구의 임신	-2	-1	0	+1	+2
28. 새 식구가 생김 (출생, 입양, 또는 가족의 합류)	-2	-1	0	+1	+2
29. 유산(abortion), 또는 아내/여자 친구의 유산	-2	-1	0	+1	+2
30. 거주지 변경	-2	-1	0	+1	+2
31. 거주 환경 변경 (새 집을 짓거나 리모델링 등)	-2	-1	0	+1	+2
32. 재정, 수입의 변화 (호전 또는 악화)	-2	-1	0	+1	+2
33. 만불 이상을 융자함 (집을 사거나 사업을 위해)	-2	-1	0	+1	+2
34. 만불 미만을 융자함 (차, TV를 사거나 학자금 대여)	-2	-1	0	+1	+2
35. 저당물 또는 대여금을 도로 찾을 권리를 상실	-2	-1	0	+1	+2
36. 가족관계의 변화 (더 친밀해지거나 소원해짐)	-2	-1	0	+1	+2
37. 배우자와의 연쟁 횟수의 변화 (더 늘거나 줄어듦)	-2	-1	0	+1	+2
38. 시댁 또는 아내 가족과의 갈등	-2	-1	0	+1	+2
39. 직장에서의 갈등 (실직, 업무 중지, 강등의 위험)	-2	-1	0	+1	+2
40. 교회 활동의 변화 (참석률의 증가 또는 감소)	-2	-1	0	+1	+2
41. 사고 모임이나, 영화 관람등의 사회 활동의 변화 (참여율의 증가 또는 감소)	-2	-1	0	+1	+2
42. 취침 습관의 변화 (취침양의 증가 또는 감소)	-2	-1	0	+1	+2
43. 식습관의 변화 (섭취양의 증가 또는 감소)	-2	-1	0	+1	+2
44. 여가활동의 변화 (여가 종류나 활동시간에 있어서)	-2	-1	0	+1	+2

스트레스 인지

다음은 당신이 겪을 수 있는 감정과 생각에 관한 질문입니다. 지난 한 달동안 당신이 얼마나 자주 다음과 같은 생각이나 감정을 경험하였는지 가장 잘 나타내주는 번호 한개에 ○표 해주십시오.

- 0 = 전혀 없었다
 1 = 거의 없었다
 2 = 가끔 있었다
 3 = 자주 있었다
 4 = 매우 자주 있었다

지난 한 달동안 당신은 얼마나 자주 다음과 같이 느끼셨습니까?

	전혀 없었다	거의 없었다	가끔 있었다	자주 있었다	매우 자주 있었다
1. 예기치 않은 일때문에 심란했던 적이 얼마나 자주 있었습니까?	0	1	2	3	4
2. 삶의 중대사를 당신 뜻대로 할 수 없다고 느낀 적이 얼마나 자주 있었습니까?	0	1	2	3	4
3. 긴장감과 스트레스를 얼마나 자주 겪었습니까?	0	1	2	3	4
4. 개인적인 문제를 해결하는 데 자신있다고 느낀 적이 얼마나 자주 있었습니까?	0	1	2	3	4
5. 일이 뜻대로 잘 풀린다고 얼마나 자주 느꼈습니까?	0	1	2	3	4
6. 해야 할 모든 일들을 제대로 처리하지 못한다고 느낀 적이 얼마나 자주 있었습니까?	0	1	2	3	4
7. 얼마나 자주 짜증을 잘 다스릴 수 있었습니까?	0	1	2	3	4
8. 일을 잘 하고 있다고 얼마나 자주 느꼈습니까?	0	1	2	3	4
9. 통제할 수 없는 일로 화가 난 적이 얼마나 자주 있었습니까?	0	1	2	3	4
10. 어려움들이 너무 많아 도저히 극복할 수 없다고 느낀 적이 얼마나 자주 있었습니까?	0	1	2	3	4

미국 생활중 겪는 어려움

다음은 당신이 미국 생활중 겪을 수 있는 어려움에 관한 질문입니다. 당신의 경험을 가장 잘 나타내는 번호 한개에 O표 해주십시오.

0 = 전혀 겪지 않는다

1 = 가끔 겪는다

2 = 자주 겪는다

3 = 매우 자주 겪는다

당신은 아래의 상황에서 영어로 인한 어려움을 얼마나 자주 경험하십니까?

	전혀 겪지 않는다	가끔 겪는다	자주 겪는다	매우 자주 겪는다
1. 아이들과 대화할때	0	1	2	3
2. 일을 할때 (직장, 학교, 기타 등등에서)	0	1	2	3
3. 신문이나 잡지, 책을 읽을때	0	1	2	3
4. 공문서를 읽을때 (예 -세금 보고서)	0	1	2	3
5. 쇼핑할때	0	1	2	3
6. TV를 보거나 라디오를 듣는데	0	1	2	3

당신은 얼마나 자주 다음과 같은 이유 때문에 미국에 사는 것이 어렵다고 느끼십니까?

	전혀 겪지 않는다	가끔 겪는다	자주 겪는다	매우 자주 겪는다
7. 한국을 방문할 기회가 부족하기 때문에	0	1	2	3
8. 가족, 친척, 친구들과 떨어져 살기 때문에	0	1	2	3
9. 한국에 즐기던 일들을 더 이상 하지 못하기 때문에	0	1	2	3
10. 신뢰할 수 있는 사람을 찾지 못해서	0	1	2	3
11. 진정한 친구가 없기 때문에	0	1	2	3
12. 다른 한국인들로부터 부당한 취급을 받아서	0	1	2	3
13. 나의 자격이나 경력에 미치지 못하는 직업때문에	0	1	2	3
14. 한국에서의 경력을 인정받지 못하기 때문에	0	1	2	3
15. 한국에서의 학력을 인정받지 못하기 때문에	0	1	2	3
16. 사회적인 지지나 기반의 부족때문에	0	1	2	3
17. 차별을 받아서	0	1	2	3
18. 이방인 취급을 당해서	0	1	2	3
19. 미국의 학교나 교육제도를 이해하지 못해서	0	1	2	3
20. 미국의 정치에 참여할 기회 부족때문에	0	1	2	3
21. 남들로부터 나의 소수민족됨을 계속 상기받기 때문에	0	1	2	3
22. 정치적 결정에 아무 영향력을 행사할 수 없으므로	0	1	2	3
23. 돈을 더 많이 벌 수 있는 기회가 부족하기 때문에	0	1	2	3

	전혀 겪지 않는다	가끔 겪는다	자주 겪는다	매우 자주 겪는다
24. 지금 생활수준이 미국에 처음 왔을 때보다 못하기 때문에	0	1	2	3
25. 휴가를 즐길 시간과 돈의 여유가 없기 때문에	0	1	2	3
26. 한국이었다면 배우자와의 관계가 더 좋았을 것이기 때문에	0	1	2	3
27. 자녀들의 장래가 걱정되기 때문에	0	1	2	3
28. 자녀들이 자라서 나를 부모로서 공경하지 않을까봐	0	1	2	3
29. 한국이었다면 걱정하지 않았을 가족간의 소원함 때문에	0	1	2	3
30. 배우자와 잦은 말다툼 때문에	0	1	2	3
31. 남편과 친정부모 혹은 아내와 시부모의 관계가 미국에 온 후 나빠졌기 때문에	0	1	2	3

사회적 지지

다음은 당신이 가족 친지, 친구들로부터 받는 도움이나 지지에 관한 당신의 생각을 묻는 질문입니다.
다음 각 사항에 당신이 얼마나 동의하는지 가장 잘 나타내주는 번호 한 개에 O표 해주십시오.

- 0 = 전혀 동의하지 않는다
 1 = 거의 동의하지 않는다
 2 = 동의도 부정도 하지 않는다 (중립이다)
 3 = 약간 동의한다
 4 = 매우 동의한다

당신은 다음 사항들에 얼마나 동의하십니까?

	전혀 아니다	거의 아니다	중립	약간 그렇다	매우 그렇다
1. 내가 어려울때 도와줄 소중한 사람이 주위에 있다.	0	1	2	3	4
2. 회비를 같이할 소중한 사람이 나에게 있다.	0	1	2	3	4
3. 나의 가족은 진심으로 나를 도와주려 한다.	0	1	2	3	4
4. 나는 가족으로부터 정서적인 도움과 지지를 받는다.	0	1	2	3	4
5. 진정 위안이 되는 소중한 사람이 나에게 있다	0	1	2	3	4
6. 친구들은 진심으로 나를 도와주려 한다.	0	1	2	3	4
7. 일이 뜻대로 되지 않을때 나는 친구들에게 기댈 수 있다.	0	1	2	3	4
8. 나는 가족과 나의 어려움에 대해 이야기할 수 있다.	0	1	2	3	4
9. 회비를 같이할 친구들이 나에게 있다.	0	1	2	3	4
10. 나의 감정을 배려해 주는 소중한 사람이 나에게 있다.	0	1	2	3	4
11. 가족은 내가 의사결정 하는 것을 기꺼이 도와준다.	0	1	2	3	4
12. 나는 친구들과 나의 어려움에 대해 이야기할 수 있다.	0	1	2	3	4

스트레스 대처 방식

다음은 사람들이 여러가지 어려움이나 스트레스를 겪을때 또는 화가 날때 대처하는 방식들입니다. 당신은 이와 같은 스트레스 상황에서 얼마나 자주 다음과 같이 반응하는지 가장 잘 나타내주는 번호 한개에 ○표 해주십시오.

- 0 = 전혀 하지 않는다
 1 = 거의 하지 않는다
 2 = 가끔 한다
 3 = 자주 한다
 4 = 매우 자주 한다

스트레스 상황에서 당신은 얼마나 자주 다음과 같이 행동하십니까?

	전혀 아니다	거의 아니다	가끔 그렇다	자주 그렇다	매우 자주 그렇다
1. 시간계획을 더 잘 한다.	0	1	2	3	4
2. 문제에 집중하고 어떻게 그것을 해결할 수 있을지 생각한다.	0	1	2	3	4
3. 좋았던 시절을 생각한다.	0	1	2	3	4
4. 다른 사람들과 함께 지낸다.	0	1	2	3	4
5. 일을 뒤로 미루는 자신을 비난한다.	0	1	2	3	4
6. 현재 최선이라고 여기는 일을 한다.	0	1	2	3	4
7. 고통과 아픔에 사로잡힌다.	0	1	2	3	4
8. 그러한 상황에 처하게 된 것에 대해 자신을 비난한다.	0	1	2	3	4
9. 윈도우 쇼핑/아이쇼핑을 한다.	0	1	2	3	4
10. 우선순위를 정한다.	0	1	2	3	4
11. 애써 잠을 청한다.	0	1	2	3	4
12. 좋아하는 음식이나 간식을 먹는다.	0	1	2	3	4
13. 잘 대처하지 못할까봐 걱정스러워한다.	0	1	2	3	4
14. 매우 긴장한다.	0	1	2	3	4
15. 비슷한 문제들을 어떻게 해결했는지 생각해본다.	0	1	2	3	4
16. 이 일이 실제로 나에게 일어나지 않았다고 주문을 건다.	0	1	2	3	4
17. 문제상황에 대해 너무 감정적인 자신을 비난한다.	0	1	2	3	4
18. 외식을 하거나 간식을 사먹는다.	0	1	2	3	4
19. 매우 혼란스러워하고 당황스러워한다.	0	1	2	3	4
20. 나를 위해 무언가를 산다.	0	1	2	3	4
21. 대처행동을 결정하고 그대로 한다.	0	1	2	3	4
22. 어쩔줄 몰라하는 자신을 비난한다.	0	1	2	3	4
23. 사교모임에 간다.	0	1	2	3	4
24. 문제상황을 이해하려고 노력한다.	0	1	2	3	4
25. 꿈쩍도 할 수 없고 어쩔 줄 몰라한다.	0	1	2	3	4
26. 곧바로 교정행동(corrective action)을 취한다.	0	1	2	3	4

	전혀 아니다	거의 아니다	가끔 그렇다	자주 그렇다	매우 자주 그렇다
27. 일어난 일을 생각하며 실수를 통해 배울점을 찾는다.	0	1	2	3	4
28. 일어난 일이나 그에 대한 나의 감정을 바꿀 수 있기를 바란다.	0	1	2	3	4
29. 친구를 방문한다.	0	1	2	3	4
30. 할 일을 염려한다.	0	1	2	3	4
31. 특별한 사람과 시간을 보낸다.	0	1	2	3	4
32. 산책한다.	0	1	2	3	4
33. 절대 다시 이것이 일어나지 않을거라 스스로 주문을 건다.	0	1	2	3	4
34. 나의 부족함에 집중한다.	0	1	2	3	4
35. 진심어린 충고를 해주는 사람과 이야기한다.	0	1	2	3	4
36. 어떤 행동을 취하기전에 그 문제를 분석한다.	0	1	2	3	4
37. 친구에게 전화한다.	0	1	2	3	4
38. 화를 낸다.	0	1	2	3	4
39. 우선순위를 조정한다.	0	1	2	3	4
40. 영화를 본다.	0	1	2	3	4
41. 그 상황을 다스린다.	0	1	2	3	4
42. 일을 처리하기위해 더 많은 노력을 기울인다.	0	1	2	3	4
43. 문제를 풀기위해 다양한 해결방법을 모색한다.	0	1	2	3	4
44. 문제 상황으로부터 벗어나 휴식을 취한다.	0	1	2	3	4
45. 다른 사람에게 화풀이한다.	0	1	2	3	4
46. 그 상황을 통해 내가 해낼수 있다는 것을 보여준다.	0	1	2	3	4
47. 그 상황에 잘 대처할 수 있도록 생활을 정돈한다.	0	1	2	3	4
48. TV를 본다.	0	1	2	3	4

통제력

다음은 삶 가운데 일어나는 변화들을 당신이 얼마나 잘 다스리고 있다고 생각하는지 묻는 질문입니다. 다음 각 사항에 당신이 얼마나 동의하는지 가장 잘 나타내주는 번호 한개에 오피 해주십시오.

- 0 = 전혀 동의하지 않는다 (“전혀 아니다”)
 1 = 별로 동의하지 않는다 (“별로 아니다”)
 2 = 약간 동의한다 (“약간 그렇다”)
 3 = 매우 동의한다 (“매우 그렇다”)

당신은 다음 사항들에 얼마나 동의하십니까?

	전혀 아니다	별로 아니다	약간 그렇다	매우 그렇다
1. 나에게 일어나는 문제를 해결할 방법이 도무지 없다.	0	1	2	3
2. 가끔 내가 불공평하게 대우받는다고 느낀다.	0	1	2	3
3. 나에게 일어나는 일들을 내가 통제할 수 없다.	0	1	2	3
4. 내가 마음먹은 일은 무엇이든지 할 수 있다.	0	1	2	3
5. 삶의 문제들을 대처하는데 무력함을 자주 느낀다.	0	1	2	3
6. 나의 미래는 나에게 달려있다.	0	1	2	3
7. 내 인생의 여러 중대사를 내가 바꿀 수 없다.	0	1	2	3

자존감

다음 질문은 자신에 관한 당신의 생각과 감정을 묻는 것입니다. 다음 각 사항에 당신이 얼마나 동의하는지 가장 잘 나타내주는 번호 한개에 오피 해주십시오.

당신은 다음 사항들에 얼마나 동의하십니까?

	전혀 아니다	별로 아니다	약간 그렇다	매우 그렇다
1. 대체로 나 자신에 대해 만족한다.	0	1	2	3
2. 가끔 내가 전혀 가치없는 사람이라고 느낀다.	0	1	2	3
3. 나는 좋은점이 많은 사람이라고 느낀다.	0	1	2	3
4. 나도 남들만큼 일을 잘 해낼수 있다.	0	1	2	3
5. 나 자신에 대해 자랑할 것이 별로 없다고 느낀다.	0	1	2	3
6. 가끔 내가 쓸모없는 사람이라고 느낀다.	0	1	2	3
7. 적어도 남들만큼은 나도 가치있는 사람이라고 느낀다.	0	1	2	3
8. 나 자신을 좀더 존중할 수 있었으면 좋겠다.	0	1	2	3
9. 무엇보다도 나는 자신을 실패자라고 여긴다.	0	1	2	3
10. 나는 나 자신에 대해 긍정적이다.	0	1	2	3

신앙이나 종교체계

다음은 당신의 신앙이나 종교에 관한 질문입니다. 다음 각 사항에 당신이 얼마나 동의하는지 가장 잘 나타내주는 번호 한개에 O표 해주십시오.

0 = 전혀 동의하지 않는다 (“전혀 아니다”)

1 = 별로 동의하지 않는다 (“별로 아니다”)

2 = 약간 동의한다 (“약간 그렇다”)

3 = 매우 동의한다 (“매우 그렇다”)

당신은 다음 사항들에 얼마나 동의하십니까?

	전혀 아니다	별로 아니다	약간 그렇다	매우 그렇다
1. 나의 일상생활에서 신앙/종교는 중요하다.	0	1	2	3
2. 내가 중병에 걸렸을때, 기도나 명상은 내가 잘 대처하도록 도와준다.	0	1	2	3
3. 내가 속한 교회/종교 단체의 예배나 신앙모임에 참석하는 것을 즐긴다.	0	1	2	3
4. 하나님 또는 신이 어떠한 형태로든 존재한다고 확신한다.	0	1	2	3
5. 어렵고 힘들때, 내가 속한 신앙/종교 단체에 도움을 청할 사람이 있다.	0	1	2	3
6. 하나님/신은 내가 질 수 없는 짐은 주시지 않는다고 믿는다	0	1	2	3
7. 나와 신앙/종교적 신념을 함께하는 사람들과 교제하는 것을 즐긴다.	0	1	2	3
8. 나의 신앙/종교적 신념은 내가 아플때 더욱 강해진다.	0	1	2	3
9. 내가 외로울때, 나는 신앙/종교적 신념을 함께하는 사람들에게 도움을 청하고 의지한다.	0	1	2	3
10. 신앙/종교적 믿음으로 인해 나는 희망을 경험했다.	0	1	2	3
11. 기도와 명상을 통해 나는 마음의 평안을 경험했다.	0	1	2	3
12. 사람의 생사는 하나님/신의 계획가운데 있다.	0	1	2	3
13. 도움이 필요하면, 내가 속한 신앙/종교 단체에서 도와줄 사람을 찾는다.	0	1	2	3
14. 하나님/신이 나를 위험으로부터 지켜주시라 믿는다.	0	1	2	3
15. 나는 어렵고 힘들때 기도한다.	0	1	2	3

일반적 사항

다음은 당신의 일반적 사항에 관한 질문입니다.

1. 당신은 몇 년도에 태어나셨습니까? 19 년 (년도만 적어주십시오)

2. 당신은 몇 년도에 미국에 오셨습니까? 년

3. 성별

_____ 여
_____ 남

3. 어떤 언어를 사용하십니까?

_____ 한국말만 사용
_____ 대부분 한국말, 그리고 가끔 영어 사용
_____ 대부분 영어, 그리고 가끔 한국말 사용
_____ 영어만 사용

4. 당신의 영어사용에 대해 어떻게 생각하십니까?

_____ 전혀 할 수 없다.
_____ 하긴 하지만, 잘 하지 못한다.
_____ 잘 하지는 못하지만, 의사소통에는 문제없다
_____ 잘 한다.
_____ 아주 유창하게 잘 한다.

5. 당신은 스스로를 어떻게 생각하십니까?

_____ 아주 많이 한국적이다
_____ 대체로 한국적이다
_____ 비슷한 정도로 한국적이고 미국적이다
_____ 대체로 미국적이다
_____ 아주 많이 미국적이다

6. 당신의 친한 친구는 누구입니까?

_____ 모두 한국인
_____ 대부분 한국인 그리고 몇몇 외국인
_____ 한국인과 외국인 친구가 비슷한 정도
_____ 대부분 외국인, 그리고 몇몇 한국인
_____ 모두 외국인

7. 당신이 주로 드시는 음식은 무엇입니까?

- _____ 한식만
- _____ 대부분 한식, 그리고 가끔 서양식
- _____ 한식과 서양식을 비슷하게
- _____ 대부분 서양식, 그리고 가끔 한식
- _____ 서양식만

8. 당신이 주로 보는 TV 나 비디오는 무엇입니까?

- _____ 한국 프로그램만
- _____ 대부분 한국 프로그램, 그리고 가끔 미국 프로그램
- _____ 한국 프로그램과 미국 프로그램을 비슷하게
- _____ 대부분 미국 프로그램, 그리고 가끔 한국 프로그램
- _____ 미국 프로그램만

9. 혼인 여부

- _____ 결혼했고 배우자와 함께 살고 있다
- _____ 결혼했고 (직장이나 학업 관계등으로) 배우자와 떨어져 살고 있다
- _____ 미혼
- _____ 별거/이혼
- _____ 사별
- _____ 기타 (구체적으로 적어 주십시오: _____)

10. 당신과 함께 살고 있는 18 세 미만의 자녀는 몇 명입니까? _____명

11. 당신이 끝마친 최종 교육과정은 무엇입니까?

- _____ 학교 교육을 받지 않았음
- _____ 초등학교 졸업
- _____ 중학교 졸업
- _____ 고등학교 졸업 (또는 GED)
- _____ 대학교 졸업
- _____ 대학원 석사과정 마침
- _____ Ph. D, 또는 MD, JD 과정 마침
- _____ 기타 (구체적으로 적어 주십시오: _____)

12. 당신은 현재 어떤 일을 하고 계십니까? (해당하는 곳에 모두 표시해 주십시오)

- _____ 전업주부
_____ 직장이 없다
_____ 은퇴했음
_____ 풀타임 학생
_____ 파트타임 학생
_____ 풀타임 직장인
_____ 파트타임 직장인
_____ 기타 (구체적으로 적어 주십시오: _____)

13. 당신 가족의 일년 총수입(세금 공제전)은 다음 어디에 해당됩니까?

- _____ \$25,000 이하
_____ \$25,000 - \$50,000 사이
_____ \$50,000 - \$75,000 사이
_____ \$75,000 - \$100,000 사이
_____ \$100,000 이상

14. 당신은 어떤 종교를 가지고 계십니까?

- _____ 기독교
_____ 카톨릭
_____ 불교
_____ 유교
_____ 종교가 없음
_____ 기타 (구체적으로 적어 주십시오: _____)

15. 당신의 신앙이나 종교적인 신념은 당신의 삶에 얼마나 중요합니까?

- _____ 전혀 중요하지 않다
_____ 어느정도 중요하다
_____ 매우 중요하다

참여해 주셔서 대단히 감사합니다!

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